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ANNUAL CATALOGUE A

REGISTER OF PUBLISHED BOOKS

OF THE

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NEW SERIES, VOL. XVI.

WHOLE SERIES, VOL. XLIII.

NEW YORK:
D. APPLETON AND COMPANY,
1, 3, 5, 7 & 9 NASSAU STREET
1891.



J. C. Fremont.

APPLETONS'
ANNUAL CYCLOPÆDIA
AND
REGISTER OF IMPORTANT EVENTS
OF THE YEAR
1890.

EMBRACING POLITICAL, MILITARY, AND ECCLESIASTICAL AFFAIRS; PUBLIC
DOCUMENTS; BIOGRAPHY, STATISTICS, COMMERCE, FINANCE, LITERA-
TURE, SCIENCE, AGRICULTURE, AND MECHANICAL INDUSTRY.

NEW SERIES, VOL. XV.

WHOLE SERIES, VOL. XXX.

NEW YORK:
D. APPLETON AND COMPANY,
1, 3, AND 5 BOND STREET.
1891.

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PREFACE.

THE most important event of 1890, as affecting the contents of this volume, was the United States census, which was taken in June, and is going rapidly through the usual processes of computation and tabulation. Many of the most significant results have been reached already, and a brief summary of them will be found in the article "United States Census," together with tables convenient for quick reference and a colored chart. In each State article the population of that State by counties is given, with the population in 1880 and the increase or decrease. In the Census article the tables showing the size and condition of cities are instructive; and in this connection the reader will also be interested in the article "Cities, American, Recent Growth of," which we have continued through four volumes of the "Annual Cyclopædia." The present article treats of eighty-four cities in the United States and Canada. For still further information as to the growth of our country, the reader should consult the articles "Commerce of the United States," "Financial Review of 1890," and "United States Finances," those on the discoveries of Tin and Salt, and those on the new States, Idaho and Wyoming, each of which is accompanied by a colored map prepared expressly for this work. There is also a large colored map of Ontario, the most important province of the Dominion of Canada.

As a proper accompaniment to our many scientific articles, we present this year a history and description of the National Academy of Sciences, with notices of all the members and a portrait of each one that has held the office of president. The article on "Associations for the Advancement of Science" is full as usual, with portraits of the British and American presidents. Other records of scientific progress may be found in the articles on "Astronomy," "Chemistry," "Metallurgy," "Meteorology," "Physics," and "Physiology"—all prepared by experts, and making an almost complete story of the year's attainments—while the articles "Koch, Robert," and "Tuberculous Diseases" tell all that is known of the scientific achievement that excited the deepest popular interest the world over.

The present condition of Newfoundland, now the center of so much interest, is fully set forth by one of her eminent citizens, with a full-page map, engraved expressly to accompany the article. We also present a view of the island of Heligoland, which has just passed from British to German possession. Other geographical topics are presented in the usual full article on "Geographical Progress."

Events in music and the fine arts are recorded under those titles, and the three articles on American, British, and Continental literature show what has

been done in the world of authorship. For an art that claims a wide popular interest, the reader is referred to the illustrated article "Portraits, Crayon," in which one of the most successful of its followers explains minutely how it may be learned and how it is practiced. Besides the mechanical achievements that are set forth in "Engineering," the volume contains a special article on the "Phonograph" and one on "Type-Writers," in which the history of that invention is traced from its earliest conception to the present day, when it has developed into a great industry and the machines are considered among the necessities of business life. Both of these articles are fully illustrated. There is also an illustrated article showing the improvements in shot-guns. And the article "Steamers, Ocean," shows how the traffic across the Atlantic has continually increased its speed, and has gone from comparatively small vessels to those of ten thousand tons.

The organizations of which we give a history in the present volume include the Farmers' Alliance, the National League for Protection of American Institutions, the Military Order of America, the Patriotic League, the Patriotic Order of Sons of America, and the Woman's Christian Temperance Union.

Last year's interesting article on "Soldiers' Homes" is properly supplemented this year by one on "Girls' Co-operative Boarding-Homes," from the pen of Robert Stein, of Washington, who has made a special study of that most worthy charity. The other special articles include "Fungi, Edible," "Forefathers' Day," "Famines in Ireland," "Hurling," "Horsemanship," "Indian Messiah," and "Naval Apparatus, New," by Lieut. Nazro, U. S. N. The article "Original-Package Decision" gives the result of important legislation and legal decisions, and similar information on other topics is to be found in many of the articles on the States.

The colored illustrations of this volume have been mentioned above. The three steel portraits represent the three most famous men, in different professions, that died during the year—Gen. John C. Frémont, George Bancroft, the historian, and Cardinal Newman, each being accompanied by a very full biographical sketch. The necrology for 1890 also includes Gens. George Crook and Alfred H. Terry; ex-Speaker Samuel J. Randall; Dion Bonicault, the actor and dramatist; Richard F. Burton, the traveler and author; Amadeo, Duke of Aosta; Count Andrassy; Chatrian, the novelist; Schlicmann, the explorer; Bishop Beckwith, George H. Boker and B. P. Shillaber, authors; Charles L. Brace and George H. Stuart, philanthropists; John H. C. Coffin, the mathematician; Martin B. Anderson and Frederick H. Hedge, educators; Thomas Hicks, the artist; Justice Samuel F. Miller; Prof. C. H. F. Peters, the astronomer; Rear-Admiral Stephen C. Rowan; Sitting Bull, the Sioux medicine man; Ignaz Döllinger, the theologian; Octave Fenillet, the novelist; Lord Napier of Magdala; Canon Liddon; Willem III, King of the Netherlands; and J. E. Thorold Rogers, the political economist. Of many of these we present portraits as well as biographical sketches.

NEW YORK, April 8, 1891.

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THE ANNUAL CYCLOPÆDIA.

A

ABYSSINIA, an empire in eastern Africa. The reigning sovereign is Menelek II. formerly King of Shoa, who on the death of the Negus Johanniss in 1889 proclaimed himself Emperor of Ethiopia, and subsequently overcame the rival claimants to the succession. He had already accepted an Italian protectorate, May 2, 1889, in a treaty that was confirmed and supplemented by a convention concluded between his plenipotentiaries and the Italian Government in October of the same year. Under the Negus the country is ruled by 24 feudal vassals, who collect and pay into the royal treasury the taxes, and owe the King service with their retainers in time of war. Menelek has, moreover, a permanent army of paid soldiers, most of whom are armed with rifles.

Area and Population.—The provinces of Tigré, Lasta, Amhara, and Gojam have a combined area of 80,000 square miles and a population of about 2,000,000 persons. The kingdom of Shoa is more populous, having 1,500,000 inhabitants on a territory of 26,000 square miles. The dependencies of the Bogos, Shoho, Mensas, Barea, Kunaina, Hababs, and Beni Amer in the north cover an area of about 28,000 square miles, with a population not exceeding 100,000. Danakil, the country between the Abyssinian plateau and the sea, inhabited by the Afars and Adals, is 40,000 square miles in extent, with 200,000 population. The extreme political boundaries of Abyssinia include also a territory of 6,000 square miles, inhabited by the Issas and other dependent Somali tribes, numbering 60,000 individuals, and the lands of the conquered Gallas and Kaffas, 64,000 square miles in extent, with about 3,500,000 inhabitants. According to this calculation, the empire embraces 244,000 square miles, with a total population of 7,300,000 souls. Prof. Guido Cora, of Turin, estimates the area of the Kingdom of Abyssinia, including Shoa, Kaffa, Harrar, etc., at 190,000 square miles, and the population at 5,000,000; the dependencies of the Hababs, Bogos Beni-Amer, etc., at 18,000 square miles, with 200,000 inhabitants; the Danakil territory, with the sultanate of Aussa, at 34,000 square miles, with 200,000 inhabitants; and Oppia and other districts of the Somali coast, with a tract in the interior extending to Wadi Nogal and Mudug, at 90,000 square miles, with 300,000 in-

habitants. The districts that had been occupied as Italian possessions up to the close of 1889 were the country around Massowah, Keren, and Asmara, having an area of 3,100 square miles, with 250,000 inhabitants.

The dominant race, of Arabian origin and speaking the old Ethiopic language was converted to Christianity in the fourth century. The *abuna* or head of the Church is always a Copt who is appointed and consecrated by the Patriarch of Alexandria; but the actual control of religious affairs is shared by the *ecbegheh*, an Abyssinian dignitary who presides over the monastic orders. There are about 12,000 monks in the country.

The people raise large herds of cattle, as well as sheep and goats. Little attention is given to agriculture. Wild indigo, tobacco, sumach, coffee, cotton, sugar-cane, the date palm, and the vine thrive, and the forests contain valuable woods, such as ebony, tamarind, sycamore, baobab, and the wild olive. Tobacco was successfully cultivated on a considerable scale by Greeks in the vicinity of Keren until Ras Aloula destroyed the plantations. The soil is exceedingly fertile, producing abundant crops of wheat, barley and legumes in the elevated regions, and the plants of tropical and sub-tropical climates in the plains and valleys near the sea.

Commerce.—Foreign commercial exchanges take place only through Massowah. The commerce of that port rose from \$200,000 in 1861 to \$1,400,000 in 1881, and then ceased to a great extent during the hostilities with Italy. The principal export articles are mother-of-pearl, skins, mules, and butter, which amounted to a total of \$300,000 in 1889. Gums, coffee, ivory, ostrich feathers, skins, and cereals from the interior have ceased to be exported, owing to war and anarchy.

The Pacification of Tigré.—The basis of an arrangement for a combined action against the Negus Johanniss by Menelek, the rebellious King of Shoa, in the south, and the Italians at Massowah, who were to advance to Asmara or Gura, in Tigré, was agreed to in the summer of 1888 by Count Antonelli and Menelek. In accordance with this secret treaty, Menelek was supplied with munitions. Yet neither he nor the Italian military authorities, who doubted his

good faith, would open the campaign. The political authorities were more confident, and in January, 1889, Signor Crispi obtained the assent of Signor Bertoldo-Viale, the Minister of War, to a reconnoitering expedition, which was suspended in consequence of rumors of a reconciliation between Menelek and Johannis. Doubt and suspicion continued to deter the allies till Johannis was killed in battle with the dervishes on March 11, 1889. Then Menelek raised his standard as Emperor of Ethiopia, and was acknowledged by all the provinces except Tigré. Still Gen. Baldissera di Veglio and the Ministry of War urged objections to the immediate occupation of Keren and Asmara, and it was not till the end of the summer that the Italian Premier saw his desire fulfilled and the coveted positions in Italian possession.

Ras Aloula, Mangascia, Debeb, and Balambars Kafel contended among themselves for supremacy in Tigré, and Menelek hesitated long before entering the province and engaging in a fierce conflict with Aloula and the other military chiefs who disputed his sovereignty, although the Ethiopian crown would rest very insecurely on his head unless he could compel their submission. Gen. Baldissera held the opinion that the Italian colony would flourish and expand under more favorable conditions if the neighboring region were divided among independent petty chiefs, who would serve as buffers between the Italian possessions and the Abyssinian power. This policy was disapproved by the home authorities, who recalled the commander-in-chief and sent out Gen. Orero, with instructions to advance into Tigré and co-operate with Menelek. The presence of Italian troops was expected to impress Menelek with the necessity of holding to his engagements and respecting the treaty of protection by operating on his fears as well as on his sense of gratitude. The questionable loyalty of Tekla Aimanot, King of Godjam, and the danger of a revolt of the Wollo Gallas compelled Menelek to remain long in the south after assuming the sovereignty. After his coronation, on Nov. 18, 1889, he set out on his march for Tigré with an army of 150,000 horse and foot. Mangascia, the son of the late Negus, who contested the succession with Menelek with the aid of Ras Aloula, had beaten the King's adherents in Tigré and held Degiæ Seyum closely besieged in Vogerat. Yet when Menelek, who had disregarded the treaty in notifying the European powers directly of his coronation, became convinced that an Italian force would join him at Adua, he suddenly changed his purpose, and instead of advancing to annihilate his foes, whose retreat was cut off by the Italians, he made a hasty peace, acknowledging Mangascia tributary King of Tigré on the sole condition that he should conform to the Italian treaty and should protect the frontier. On that, with his huge army, he returned to the south, refusing to be crowned as Negus Negusti in Adua.

Gen. Orero set out on Jan. 10, 1890, with 6,000 Italian regulars, Bashi-Bazouks, and native allies, advancing in three columns from Asmara, Godoflessi, and Gundet. On the 26th he reached Adua, encountering no resistance. The clergy and notables met him ceremoniously at the entrance of the town. It was supposed in Eu-

rope that the occupation of Adua foreshadowed the annexation of the province of Tigré. English susceptibilities were aroused because a forward movement of the Italians in the north of Abyssinia might lead to the extension of their influence into the Soudan. Gen. Orero calmed the fears of the Abyssinians by assuring them that he had not come to Adua to subjugate the Tigré province to Italy, but to inquire into and to satisfy their claims. When that was done he would return to the Italian possessions on the other side of the Mareb. In Europe it was explained that the expedition was intended merely as a military demonstration in favor of Menelek. Signor Crispi told the Chamber that, while endeavoring to develop commerce, even in the direction of Kassala, the Italian Government would always proceed in accord with Great Britain, more especially as Italian and English interests are identical in that quarter. Leaving a detachment of native levies in Adua, the Italian commander returned to the Mareb.

After the Italians had re-entered their own territory King Menelek again set his army in motion, and advanced by slow stages, entering Adua in March. Mangascia and Ras Aloula had already received Count Pietro Antonelli, the negotiator of the treaty with Menelek, and Count Salimbeni, accredited as envoy extraordinary to the Negus, whom Aloula had cruelly compelled as a prisoner in chains to witness from a neighboring height the massacre of his countrymen at Dogali in January, 1887. Menelek reached Adua in March, and nominated Degiæ Mesciasia governor of the province. He appointed two of his officers to act with Col. Cossato and Capt. Toselli in fixing the boundary line between the Italian possessions and Tigré. The new commander-in-chief placed as little reliance as his predecessor on the fidelity of Menelek, and for strategic reasons he desired, not to withdraw to the line favored by Gen. Baldissera, but to secure a defensible frontier by taking possession of Gura, Debaroa, and Godoflessi, making the boundary line correspond very nearly with the course of the Mareb and Belesa rivers. A supplementary convention that was signed by Signor Crispi and Degiæ Makonnen at Naples on Oct. 1, 1889, was ratified by the Emperor Menelek at Makalle, where Count Antonelli met him on Feb. 25. The Russian Government alone objected to the establishment of an Italian protectorate in Abyssinia, France refusing to join in the protest. Conflicts arose in the spring between the Anglo-Egyptian authorities at Suakin and the Italians at Massowah, whom the English accused of subsidizing a tribe of Hadendawas, of exercising supervision over a part of the coast beyond their understood limits, and of extending their activity in the Bogos country also beyond their proper sphere. The law of June 5, 1882, which first established Italian sovereignty on the shores of the Red Sea in the Assab Bay territory was extended to Asmara and the other newly acquired territories by the vote of the Italian Legislature.

Conspiracy against the Italians.—While General Orero was absent in Tigré with all the white troops except two or three hundred, a plot was concocted to exterminate the Italians in East Africa. The chief conspirators were

Mussa el Akkad, a rich Arab merchant who served as a magistrate under the Italian authorities at Massowah, and Achmed Kantibai, chief of the Hababs, the tribe of Mussulman Abyssinians who earliest accepted Italian dominion and subsidies. These two were in communication with both Mangascia and Osman Digna, who made ready to crush between them the main force of the Italians after the Habab chief had surprised and massacred the Massowah garrison by night and seized the arms and fortified positions. The accidental arrest of a messenger in a drunken brawl and the discovery of a letter that he awkwardly tried to conceal, written by Kantibai to Ras Mangascia, led to the discovery of the plot. Many persons were arrested, and the two head conspirators were tried by court-martial and condemned to death.

The Italo-Abyssinian Treaty.—The treaty concluded by the Italian plenipotentiary with Menelek on May 2, 1889, and ratified on Sept. 29, 1889, contains twenty articles. Each of the contracting parties can be represented by diplomatic representatives and consular agents, who shall enjoy the same privileges and immunities that are accorded among European powers. Each government was to appoint two boundary commissioners to survey and mark out the frontier, which should follow in general the edge of the northern plateau, leaving Halai, Saganciti, and Asmara in Italian territory, extending to the country of the Bogos at Adi Nefas and Adi Johannis, and conform to a line drawn due east from Adi Johannis. Caravans entering Ethiopia must pay a uniform duty of 8 per cent. of the value of the goods imported. Arms and ammunition can be imported through Massowah only for the Emperor of Ethiopia and by his order. The subjects of either contracting power are at liberty to travel or settle or to buy, sell, rent, or hire with the same rights as natives in the territory of the other, and will enjoy the complete protection of the Government; but armed bands are strictly prohibited from crossing the frontiers. The subjects of each state in the territory of the other shall have complete freedom in the exercise of their religion. Quarrels and differences arising between Italians in Abyssinia shall be settled by the Italian authorities in Massowah, and differences between Italians and Abyssinians shall be adjusted by the same tribunal or by delegates of the Italian and the Ethiopian authorities. The property of a subject of either power dying in the territory of the other must be delivered over to the authorities of the country to which he belongs. An Italian accused of a crime must be tried before an Italian tribunal, and an Abyssinian before an Abyssinian tribunal. Each power promises to deliver up fugitives from justice. The Negus Negusti engages to suppress the slave trade with all his power and to allow no slave caravans to pass through his territories. The treaty is binding on the whole Ethiopian Empire. Either contracting power may suggest alterations in the treaty at the end of five years, having notified the other power twelve months previously, except in regard to established territorial rights. The Negus Negusti of Ethiopia agrees to make use of the Government of the King of Italy as his inter-

mediary in all dealings with other powers or governments. If the Negus desires to confer upon the subjects of another state special privileges in trade or industry, Italians must always be given the preference under like conditions.

AFGHANISTAN, a monarchy in central Asia, lying between Russian Turkistan and British India. The reigning Ameer is Abdurrahman Khan, a son of Afzal Khan and grandson of Dost Mohammed Khan. The country is divided into the four provinces of Cabul, Turkistan, Herat, and Candahar, each of which is ruled by a *hakim* or governor. The districts of Badakshan and Wakhan have likewise separate governors at present. Abdurrahman has attempted to re-establish, in addition to the feudal levies, the regular army on the European model, that was introduced by Shere Ali after his visit to India in 1869.

Area and Population.—The northern boundary of Afghanistan was determined and demarked by the Anglo-Russian Afghan Boundary Commission. It follows the Oxus from the Pamir Plateau to Khamiab Saleh, whence the line was drawn in a southwesterly direction to Zulfikar, and thence south to Kuh Malik-i-Simh, a mountain southeast of the river Helmund. On the south the country is continuous with British Beloochistan. On the east the Indian Government has been engaged in subjugating the mountain tribes of the Zhoib valley and the Wazin country and in extending its influence in Kafiristan, Chitral Swat, and other districts between the Hindu Kush and Cashmere and in the upper part of the valley of the Indus that formerly were regarded as a part of Afghanistan. The subjects of the Ameer number about 4,000,000 people, divided into tribes that are often at feud with one another. Of the Ghilzais, the largest tribe dwelling south-east of Cabul, there are at least 1,000,000. The Tadjiks, who pursue agricultural or industrial occupations and are scattered among the other tribes, are supposed to be of Persian origin. The Duranis inhabit the country northwest of Cabul. The Aimakhs and Hazaras, who live in the mountains further north, show strong marks of Tartar descent.

Agriculture and Commerce.—The Ameer demands a tax of from 10 to 30 per cent. of the produce of the land, according to the amount of irrigation. In the greater part of Afghanistan two crops are grown in the year, one of wheat, barley, or legumes, followed by an autumn crop of rice, millet, panic grass, or Indian corn. The castor-oil plant, madder, and asafoetida grow abundantly, and large quantities of the last-named product are exported to India. Preserved fruits are exported extensively, and fruit, in both the fresh and the preserved state, forms the staple nourishment of a large proportion of the people. Apples, pears, quinces, apricots, plums, cherries, pomgranates, grapes, figs, and mulberries are exceedingly abundant. The chief industrial products are sheepskin *postins*, felt carpets, silks, and rosaries. The exports from Cabul to India, consisting of *nsafoetida*, horses, madder, fruit, *ghi*, and raw silk, amounted in 1888-'89 to 19½ lakhs of rupees; the imports from India, consisting of cotton goods, indigo, sugar, and tea, were valued at 52½ lakhs.

The Situation.—The Ameer left Cabul in the summer of 1888 to cope with the rebellion of his cousin Ishak Khan, which threatened the dismemberment of his kingdom. The rebellion was over after one decisive engagement, but Abdurrahman remained in Afghan Turkistan for the purpose of thoroughly subjugating the Uzbecks and preventing the recurrence of a rising by any possibility. For two years he scourged the country, executing the people by wholesale. When he had thus broken the spirit of the northern Afghans and placed strong and faithful garrisons in all the principal towns from Maimana in the west to Faizabad in the east, he removed restrictions to trade, admitting Russian caravans to Balkh and permitting Afghan caravans to proceed to Kerki and Bokhara. In January, 1890, he prepared to lead an expedition against the mountaineers of Kafiristan who have never been completely subdued to the Afghan yoke; but he prudently abandoned the enterprise, and confined his attention to strengthening his hold on Badakshan and maintaining the position that his lieutenants had acquired in Shignan and Roshan. During the two years that he was away in the north his eldest son, Habiullah, ruled in his stead at Cabul. The Ameer re-entered his capital in July, 1890. After his return he had to encounter a revolt of the Ali Hazaras, a turbulent branch of the Hazara nation dwelling to the north and west of Ghuznee.

ALABAMA, a Southern State, admitted to the Union Dec. 14, 1819; area, 50,722 square miles. The population, according to each decennial census since admission, was 127,901 in 1820; 309,527 in 1830; 590,756 in 1840; 771,623 in 1850; 964,201 in 1860; 996,992 in 1870; 1,262,505 in 1880; and 1,508,073 in 1890. Capital, Montgomery.

Government.—The following were the State officers during the year: Governor, Thomas Seay, Democrat; Secretary of State, J. D. Barron; Treasurer, John L. Cobbs; Auditor, Cyrus D. Hogue; Attorney-General, William L. Martin; Superintendent of Public Instruction, Solomon Palmer; Commissioner of Agriculture, Reuben F. Kolb; Railroad Commissioners, Henry R. Shorter, Levi W. Lawler, W. C. Tunstall; Chief Justice of the Supreme Court, George W. Stone; Associate Justices, David Clopton, Thomas N. McClellan, and H. M. Somerville, who resigned in July to accept an appointment from President Harrison as a member of the Court of General Appraisers, and was succeeded by Thomas W. Coleman.

Finances.—For the year ending Sept. 30, 1889, the report of the State Treasurer presents the following figures: Balance on Oct. 1, 1888, \$555,587.87; total receipts for the year, \$1,583,003.04; total expenditures, \$1,757,514.11; balance on Sept. 30, 1889, \$381,076.80. The principal receipts included \$1,053,818.51 from general taxes; \$138,924.82 from poll taxes; \$131,641.51 from licenses; \$78,953.80 from the hire of convicts; \$32,563.02 from the Agricultural Commission; and \$30,790.75 from solicitors' fees. Among the expenditures were \$638,401.44 for the educational fund; \$392,100 for interest on the debt; \$137,358 for the Hospital for the Insane; \$25,096.85 for military expenses; and \$15,644.53 for public

printing. For the year ending Sept. 30, 1890, the report is as follows: Balance on Oct. 1, 1889, as above given, \$381,076.80; total receipts for the year, \$2,594,442.17; total expenditures, \$2,642,614.59; balance on Sept. 30, 1890, \$332,904.38. A reduction of the tax rate to 4.5 mills is the cause of the decrease in the surplus. For 1891 the rate will be 4 mills, and a still greater shrinkage is expected. The regular receipts and expenditures for the year were less than the above-mentioned figures by \$954,000, that sum representing the amount of 6-per-cent. State bonds which were refunded into 4-per-cent. bonds during the year. The entire bonded debt of the State at the beginning of 1890 amounted to \$9,237,700, and with the exception of \$539,000 in 5-per-cent. bonds, it bears interest at 4 per cent. Since 1880 there has been a decrease of \$66,521 in the debt.

Assessments.—The total assessed valuation of property for 1889 was \$242,197,531, an increase of \$13,328,490 over 1888. Of this sum the assessment of railroad property was \$40,163,776.18. For 1890 the total assessed valuation was \$258,979,575.41, of which \$43,338,781.47 was the assessment of railroad property.

Education.—Thirteen of the cities and larger towns are organized into separate school districts, in which a system of schools more advanced than that in the counties is maintained by the aid of local taxation. The report of the State Superintendent of Education for the school year ending Sept. 30, 1889, presents the following statistics for both these separate school districts and the counties outside of the districts:

ITEMS.	Counties.	Districts.
Pupils enrolled, white.....	160,918	5,080
Pupils enrolled, colored.....	101,649	8,457
Total enrollment.....	261,667	8,537
Average attendance, white.....	98,640	4,188
Average attendance, colored.....	66,888	2,385
Total average attendance.....	165,528	6,573
Number of white schools.....	8,945	111
Number of colored schools.....	2,064	57
Male teachers, white schools.....	2,476	.....
Male teachers, colored schools.....	1,815	.....
Female teachers, white schools.....	1,472	.....
Female teachers, colored schools.....	653	.....
Average monthly pay, white teachers.....	\$21 14	\$58 40
Average monthly pay, colored teachers.....	\$21 15	\$10 00
Average school year in days.....	69 5	172
Paid teachers in white schools.....	\$254,084 93	\$62,265 92
Paid teachers in colored schools.....	\$190,648 20	\$19,177 07

The receipts of the State school fund during the year were \$334,285.76, and the disbursements \$535,721.95. There was also raised and expended in the thirteen separate districts the sum of \$154,068.27, making the total expenditure in the State for public schools \$690,390.22. An enumeration of the school population, made at the beginning of the school year, showed 272,730 white children and 212,821 colored, total, 485,551. These figures, compared with the enrollment above given, show that only 60 per cent. of the white children in the State, and fewer than 50 per cent. of the colored children, were enrolled in the public schools. Moreover, these schools were kept open an average of only 75 days during the year, reckoning the counties and separate districts together.

The State normal schools have an encouraging record for the year 1888-'89. At Jacksonville 195 pupils were enrolled; at Huntsville, 257; at

Troy, 223 in the normal department and 437 in the model school; at Tuskegee, 400 in the normal school and 100 in the training school; and at Livingston 38 in the normal course. The new normal school for colored students at Montgomery was opened during 1889, and in December of that year contained 325 pupils in the normal and 360 in the preparatory department. Two buildings have been erected by the State, one for industrial the other for literary purposes.

Population.—The following table presents the population of the State by counties, as ascertained by the national census of this year, compared with similar returns from the census of 1880:

COUNTIES.	1880.	1890.	Increase.
Autauga.	18,108	18,880	772
Baldwin.	8,608	8,930	322
Barbour.	88,979	85,659	1,680
Bibb.	9,457	18,794	4,907
Blount.	15,859	21,867	6,498
Bullock.	29,666	27,928	• 2,688
Butler.	19,649	19,393	• 256
Calhoun.	19,361	18,767	14,176
Chambers.	39,440	38,356	2,446
Cherokee.	19,104	19,481	1,933
Chilton.	10,793	14,586	3,743
Choctaw.	15,781	17,538	1,807
Clarke.	17,806	22,599	4,798
Clay.	12,988	15,758	2,820
Cleburne.	10,976	18,228	2,252
Coffee.	8,119	12,129	4,010
Colbert.	16,158	20,169	4,016
Concord.	12,065	14,586	1,981
Cook.	15,113	15,888	775
Covington.	6,699	7,584	1,885
Crenshaw.	11,726	15,401	3,675
Cullman.	6,835	18,448	7,088
Dale.	12,677	17,211	4,534
Dallas.	48,438	49,849	916
DeKalb.	12,675	11,091	8,416
Elmore.	17,502	21,726	4,222
Escambia.	5,719	8,665	2,946
Etowah.	15,398	21,898	6,500
Fayette.	10,135	12,797	2,662
Franklin.	9,135	10,563	1,408
Geneva.	4,242	10,676	6,384
Greene.	21,381	21,992	61
Hale.	26,553	27,423	870
Henry.	18,761	24,786	6,025
Jackson.	25,114	27,925	2,811
Jefferson.	23,272	88,870	65,068
Lamar.	12,142	14,113	1,971
Lauderdale.	21,085	23,741	2,712
Lawrence.	21,392	20,705	• 684
Lee.	27,362	28,019	1,387
Limestone.	21,699	21,398	• 397
Lowndes.	81,176	81,527	851
Macon.	17,871	18,414	1,043
Madison.	37,025	87,557	232
Marengo.	80,800	80,415	2,125
Marion.	9,364	11,419	55
Marshall.	14,585	15,896	4,811
Mobile.	48,653	51,495	2,842
Monroe.	17,291	18,984	1,893
Montgomery.	62,955	55,100	2,714
Morgan.	16,428	23,511	7,083
Perry.	80,741	29,830	• 1,441
Pickens.	21,479	22,465	986
Pike.	20,640	24,538	3,898
Randolph.	16,575	17,288	658
Russell.	24,837	24,090	• 807
Selby.	17,236	20,879	3,643
St. Clair.	14,462	17,384	2,872
Sumter.	28,728	29,561	833
Talladega.	23,890	29,354	5,974
Tallapoosa.	23,401	25,438	2,082
Tuscaloosa.	24,357	30,323	5,966
Walker.	9,479	16,630	6,351
Washington.	4,588	7,925	3,387
Wilcox.	31,828	30,769	• 1,059
Winston.	4,238	6,485	2,132
Total.	1,262,565	1,478,073	215,568

• Decrease.

The largest towns and cities of the State show the following population: Birmingham, 26,241, increase since 1880, 23,153; Mobile, 31,822, increase 2,690; Montgomery, 21,700, increase 5,077; Selma, 7,626, increase 97; Tuscaloosa, 5,486, increase 3,068.

Penitentiary.—The number of State convicts in the penitentiary on Oct. 1, 1888, was 740. Since that time 900 have been received, and 29 recaptured, making the total number for the two years 1,669. During that period, 99 convicts have died; 37 have been pardoned; two were sent to the insane asylum; 36 escaped and 367 were discharged, making a total of 541, and leaving on hand on Oct. 1, 1890, 1,128 prisoners. Of this number, 807 are confined at Pratt Mines engaged in various employments under the contract with the Tennessee Coal, Iron and Railroad Company. The remainder, 321, consisting of women, children, and disabled men, are confined within the penitentiary walls at Wetumpka and engaged in farming.

These figures show a marked increase in the number of convicts, and a high death rate, the latter circumstance being due in part to an epidemic at one of the mining camps of the lessee company. At this camp in the year ending Oct. 1, 1889, there were 54 deaths in an average prison population of about 300.

Banks.—During 1889 five new national banks were organized in the State, and two were discontinued, making the number in operation at the close of the year twenty-five. These have a combined capital of \$3,953,200, and a surplus of \$938,388, besides undivided profits to the amount of \$543,529. Their total resources reached the sum of \$14,657,858, or over \$2,000,000 in excess of the figures one year previous; and their loans and discounts reached \$8,274,806, an increase of over \$1,000,000.

Pig Iron.—Alabama, which occupied the tenth place among the States in 1880, with an output of 62,336 tons, is now third as a producer of pig iron, the production in 1890 amounting to 800,432 tons, an increase of more than 1,328 per cent. over the production of 1880. These figures cover the census year, which ends on June 30. For the census year 1890 the State produced half of all the pig iron made in the South.

County Debts.—According to the census returns of this year, 38 counties of the State have no bonded debt; Cullman County owes less than \$500; Baldwin, Conecuh, Covington, Crenshaw, Cherokee, Elmore, Escambia, Franklin, and Limestone, between \$1,000 and \$5,000; Calhoun, Dale, and Wilcox, between \$5,000 and \$10,000; Randolph, Henry, and Chambers, between \$10,000 and \$20,000; Lauderdale and Walker, between \$20,000 and \$35,000; Hale, Montgomery, and Tallapoosa, between \$35,000 and \$50,000; Dallas and Pickens, between \$50,000 and \$75,000; Barbour, between \$75,000 and \$100,000; Madison, between \$100,000 and \$250,000; Jefferson and Mobile, between \$250,000 and \$500,000. The total bonded county debt amounts to \$1,332,100, and the floating debt to \$59,920. Since 1880 there has been a decrease of \$311,246 in the total debt.

Political.—This year, for the first time, the Farmers' Alliance became a considerable factor in State politics. Beginning with a few local

societies in 1886 or 1887, the organization soon found favor with the farmers, and in January, 1890, it had perfected a State organization, with societies in every county, with a central exchange and an official State organ. During 1889 its energies were devoted to fighting the so-called "jute-bagging trust," but it soon found itself drifting into politics. Late in that year State Commissioner of Agriculture, Reuben F. Kolb, announced himself a candidate for the gubernatorial nomination at the next Democratic State Convention; and as he was a leader in the Alliance and an advocate for the farmers, his cause was at once espoused by a large majority of the local Alliances. But he had the misfortune to be bitterly opposed by an influential section of his party represented by the "Montgomery Advertiser." The ante-convention contest was, therefore, one of the most bitter and exciting in many years. The more prominent of his competitors were Joseph F. Johnston, of Jefferson; Thomas G. Jones, of Montgomery; James M. Crook, of Calhoun; and William Richardson, of Madison. The nominating convention met at Montgomery on May 28, and remained in session four days. On the first ballot Kolb received 235 votes for Governor; Johnston, 105; Richardson, 88; Crook, 55; and Jones, 45. Thirty-four ballots were taken, on the last of which the opponents of Kolb united in the support of Jones and secured his nomination by a vote of 271 to 255 for Kolb. The ticket was completed by the re-nomination of Auditor Hogue, Treasurer Cobbs, Secretary of State Barron, and Attorney-General Martin. For Superintendent of Education John B. Harris was nominated.

The Republican State Convention met at Montgomery on June 4, and nominated the following ticket: For Governor, Benjamin M. Long; Secretary of State, Charles C. Austin; Treasurer, Richard Wood; Auditor, Eli F. Jennings; Attorney-General, Charles D. Alexander; Superintendent of Education, Richard H. Porter. On June 10 a State Convention of the Prohibition party met at Anniston. The nomination of a State ticket was left to the discretion of the State Executive Committee, which, on July 5, nominated S. L. Russell, of Cherokee County, for Governor, but presented no other candidates. The Greenback party met in convention at Birmingham on July 7, and decided to present the following State ticket: For Governor, Lawson C. Coulson; Secretary of State, Buel Andrews; Auditor, Green C. Thigpen; Attorney-General, Lysander M. Davis; Superintendent of Education, William M. Wood. The name of James K. Vandergrift for Treasurer was added.

At the election, on Aug. 4, the Democratic ticket was successful. According to unofficial returns from 61 of the 64 counties in the State, Jones for Governor received 135,801 votes; Long, 41,395; and the other two candidates a scattering vote.

Members of the Legislature of 1890-'91 were elected at the same time. The Senate will be unanimously Democratic; the House will contain three Republicans and one Independent.

At the November election the following Congressmen (all Democrats) were re-elected: First District, Richard H. Clarke; Second District, Hilary A. Herbert; Third District, William C.

Oates; Fourth District, Lewis W. Turpin; Fifth District, James E. Cobb; Sixth District, John H. Bankhead; Seventh District, William H. Forney; Eighth District, Joseph Wheeler.

AMADEO, Duke of Aosta, ex-King of Spain, born May 30, 1845; died in Rome, Jan. 18, 1890. He was the second son of Vittorio Emanuele of Savoy, being a year younger than his only brother Umberto, the present King of Italy. The brothers received a thorough civil and mili-



AMADEO, DUKE OF AOSTA.

tary education. At twenty-one Amadeo rejoiced to draw the sword for Italy, and was wounded at Peschiera. A year later, May 30, 1867, he married Maria Vittoria Carlotta, daughter of Prince dal Pozzo della Cisterna. The offspring of this happy marriage are Prince Emanuele, born Jan. 13, 1869; Vittorio, Count of Turin, born Nov. 24, 1870; and Luigi, Duke of the Abruzzi, born Jan. 30, 1873.

After the proclamation of the Spanish Constitution of May 26, 1869, restoring the hereditary monarchy, King Vittorio Emanuele was asked to permit his second son to be a candidate for the throne; but he refused because Amadeo was then in the line of succession to the throne of Italy, as the Crown Prince had no son. This objection vanished on the birth of the present Prince of Naples in the following November, and when, after treating with various other princes, Gen. Prim renewed the proposal in 1870 the father gave his consent, subject to the condition that all the powers should signify acquiescence and a large majority of the constituent Cortes should vote for the prince. The European powers readily assented to the candidature, with the exception of Russia, who expressed no opinion. On Nov. 3, 1870, the Madrid Cabinet presented his name to the Cortes. No objections were made except from the benches of the Legitimists and of the Montpensier faction. The vote was taken on Nov. 16, and the Savoyan prince received 191 out of the total 344 ballots, a result that was hailed in the speech of the president, Ruiz Zorilla, as the guarantee of a peaceful and

prosperous future for Spain. The deputation of the Cortes was received by Vittorio Emanuele and the King-elect in the Palazzo Pitti at Florence on Dec. 4. It is related that Prince Amadeo, when the prospect of a splendid destiny was first presented to him, would have refused to be a candidate, and only bowed to parental authority. In spite of good intentions and honest endeavor, he was not the man needed to calm the distracted nation. He lacked the necessary experience, knowledge of human nature, political sagacity, and decision of character, and he lacked true friends and earnest adherents among the Spaniards. On the day of his landing at Cartagena from the frigate "Nunancia," Dec. 30, 1870, Marshal Prim, the head of the party that brought him to Spain, died of wounds inflicted by political assassins. Amadeo took the oath to support the Constitution, to respect the laws of the country and to insure their observance and execution, on Jan. 2, 1871. The new dynasty had no enthusiastic supporters, and the King, though he commanded the respect of everybody, won the affection and fidelity of none. The Queen was esteemed for her virtues; but her scholarly accomplishments were regarded with more curiosity than respect, and the proud court nobility looked upon her as scarcely of equal birth. "Don Amadeo's wife" was the only title that the hostile press would accord her. The amiable couple, adhering to their accustomed habits, did little to placate the characteristic Spanish jealousy of foreigners. It was impossible to secure a permanent Cabinet. The Republicans and Socialists rose in different parts of the country, and in 1872 a Carlist rebellion broke out in the north, which it was impossible to extinguish. Though warned of a plot to assassinate him on July 18, 1872, Amadeo was not deterred from taking his usual drive with his wife. When returning, about midnight, each tried to shield the other when the carriage was stopped by armed men and several shots were fired. For seven months longer the King attempted to master the increasing difficulties, refusing to deviate one step from the path of strict legality, though counselors urged him to use strong measures against his enemies. A conflict with the ministry arose. He was unwilling to promote an officer whom numerous comrades declared to be unworthy, but signed the order when the Minister of War threatened to resign. The protesting officers indignantly threw up their commissions, and the order accepting their resignations he signed likewise, and then, rising from the table, he said: "I have decided to abdicate." He adhered firmly to this resolve, in which he was strengthened by his wife, whose health had suffered and who longed for her Italian home. In announcing to the Cortes his intention, on Feb. 11, 1873, he said: "My hopes have deceived me, for Spain lives in the midst of a perpetual conflict. If my enemies had been foreigners I would not abandon the task; but they are Spaniards. I wish neither to be the king of a party nor to act illegally; and, convinced of the fruitlessness of my efforts, I renounce the crown for myself and my heirs." Castelar, who was president, proposed that the two chambers should unite and assume the sovereignty. The abdication was unanimously ac-

cepted by the Cortes, which, in its reply to the royal message, declared that "if any human power could check the inevitable course of events, your Majesty, through your constitutional education and respect for established right, would have averted them." On the following morning the royal couple, with their children, set out for Florence, a guard escorting them to the frontier. The Amadeist party, he jestingly told an inquirer on the voyage, had never suffered for lack of unity, as it consisted of himself alone.

The prince was restored without delay to his former title of Prince Amadeo of Savoy and to all his rights and dignities in Italy. His renunciation of the right of succession to the Italian throne was annulled, and Parliament unanimously gave him again his dotation of 400,000 lire per annum. On March 12, when Amadeo was advanced to the rank of lieutenant-general, President Biancheri read to the Chamber his letter, in which he said: "A severe task was committed to me and I undertook it, offering the greatest sacrifice—that of my country—in the hope of restoring peace and tranquillity to Spain. More than two years have passed, and I leave that land more racked and rent asunder than before, as with sorrow I must own. Finding that Spain could find no happiness through me, I renounced the crown, after having faithfully kept my oath. I return to Italy. She will find in me a soldier and a patriot of whose life she can dispose." On Dec. 1, 1873, the prince was made inspector-general of the army. His wife died on Nov. 8, 1876. He lived very plainly at Turin, where he was exceedingly popular. On Sept. 8, 1888, he married for his second wife his young niece Maria Letitia, daughter of his sister Clotilde and Prince Jerome Napoleon, who bore him, on June 22, 1889, a son, to whom King Umberto has given the title of Count of Saleme. The Italian people felt a strong affection for the deceased prince, who was familiarly spoken of as Amadeo (just as the King is called by his Christian name, not by his royal title), nor did his popularity suffer from the good relations that he maintained with the Pope.

ANDRASSY, Count JULIUS, a Hungarian statesman, born in Zemplin, March 8, 1823; died in Abbazia, Feb. 18, 1890. He was the second son of Count Charles Andrassy, the head of a Roman Catholic family of magnates of no great renown or antiquity, nor distinguished for wealth until he obtained a fortune by his marriage with a Countess Szapary, and was able to settle an entailed estate on each of his three boys. Count Charles was a man of bright intellect and lively wit, charming in manners, an excellent dancer and rider, with a happy faith in his own good luck, traits inherited by his son Julius, who was celebrated even in youth for his brilliant sayings and happy thoughts, and who by his external graces, amiability, and early mastery of the arts of social intercourse won the good opinions of men and women alike. From his father, whose efforts to advance science, education, and productive enterprise in Hungary made him as much disliked by the Vienna aristocracy as he was popular among his Magyar fellow-countrymen, he derived also his large and liberal political views and his ardent patriotism. He was educated at the University of Pesth, traveled abroad, and

subsequently was employed by his father to obtain foreign capital for industrial schemes that were designed to promote the well-being of Hungary, and on that account were impeded by the authorities. At the age of twenty-four he was elected to the Diet at Pressburg from Zemplin, and by his first speech won a reputation as a brilliant orator. His character, principles, and associations led him to embrace the cause of the Hungarian revolution. He was one of those who



COUNT JULIUS ANDRASSY.

insisted on speaking in the Magyar language and obtained from the Palatine, Archduke John, this concession, involving the ultimate accomplishment of the national aspirations. Kossuth, who counted not many members of the higher aristocracy among his adherents, advanced him at once to a place among the foremost politicians of the land by nominating him as a member of the committee charged with preparing the March laws. After the installment of the Hungarian ministry by the frightened monarch on March 15, 1848, Andrássy was appointed administrator of Zemplin. He was indefatigable in organizing and training the national Honved army, and when the Austrian army, under Prince Windischgrätz, advanced on Pesth, none was more valiant on the field, or earnest in council, or laborious in the military administration, or vehement in rousing the force of national resistance that hurled back the invaders across their own frontier. At the first indication of Russian interference, Kossuth sent him to Constantinople to seek a Turkish alliance. He failed in his effort to persuade Abdul Medjid to undertake a military intervention, but obtained a promise of asylum, upon which Kossuth, with the remnant of his last army, beaten by overwhelming odds, escaped to Turkish territory. Andrássy, who remained faithful to the national cause after most of the nobility had deserted it, fled to France, while a court-martial passed sentence of death upon him, and he was hanged in effigy.

His first years of exile were passed in England, where Hungarian refugees received the cordial sympathy of all classes, and where he in particular was a welcome guest in country houses and London drawing-rooms. He acquired a lik-

ing for English customs, and studied attentively the workings of constitutional government, while amusing himself with the distractions of fashionable society and even essaying a rôle on the turf. At the breaking out of the Crimean War, in 1854, he took up his residence in Paris, where he was always gladly received in the circles of the imperial court. Still, the part that he wished to perform, that of the Emperor's special adviser in Hungarian affairs, was accorded to Count Teleky. He soon came to the conclusion that no active aid was to be expected from France for Hungary, and that England was still less likely to interfere, and having married the Countess Katinka Kendeffy, who had been one of the belles of the season in Paris and who brought him some fortune, he took advantage in 1857 of the amnesty that had been proclaimed in the previous year, and returned to Hungary. Francis Deák, who proceeded on the principle that the Hungarians must do for themselves, welcomed the returned Andrássy as an exponent of this idea. When threatened with a war for the deliverance of the Italian provinces, the Austrian Government, anxious to secure the support or neutrality of the chief men of Hungary, offered Andrássy his former post of administrator of Zemplin, which he declined, rather than take the oath of allegiance. Humbled by the disasters of the Italian campaign, the Austrian court was constrained to enlarge the liberties of the people as a means of appeasing the general dissatisfaction. A central representative legislature was created and the autonomy of the provinces was extended by the rescript of 1861. In Hungary, Magyar was restored as the official language, the old courts of judicature were re-established, and the legislative powers of the Diet were made much wider. Such concessions, however, only made Deák and Andrássy, who was elected vice-president of the Diet, more eager for the realization of the Nationalist programme, comprising an independent Hungarian Parliament and ministry. "Hungary can wait," said the Liberal Premier Schmerling, and the Magyar leaders stubbornly adhered to their demands till the defeat, in 1866, of the Austrian army by the Prussians shifted the center of gravity of the empire to Hungary and gave them the control of the situation. While Deák, who was the author of the dual system that was established, expounded his ideas to the Hungarian people, and made secure their adoption by the nation, Andrássy was selected for the not less important part of preparing the court for their acceptance in preference to the ideas of the Old Conservative magnates. Constantly on the road between Pesth and Vienna, endeavoring to bring the demands of Deák and the wishes of the Vienna circles into harmony, he developed during the Ausgleich negotiations a tireless tenacity in conjunction with such pliancy and versatility in escaping difficulties and accommodating points of difference that without the "providential man," as he was called by Deák, no Ausgleich that the Magyar people would accept could have been settled upon.

When the ministry was constituted, Deák, who never would take office, proposed Andrássy for minister-president, expecting, as the popular and parliamentary leader of the party, still to

control the policy of the Government. But a Minister of Andrassy's bold genius, feeling the weight of responsibility resting upon himself, and having the power and patronage in his grasp, would not long submit to tutelage. The task that he undertook was the double one of educating a nation to representative self-government, in which the Magyars proved apt and eager pupils, and of gaining the approval of the Emperor-King, reared amid bureaucratic traditions strong enough to choke the constitutional development of his Cisleithan dominions. The ingrained believers in centralized despotism were astounded to see Franz Josef won over, by a revolutionist lately under sentence of death, to acquiesce in the removal of all restraints on agitation by granting complete freedom of the press, of assembly, and of association in Hungary; in the abolition of the civil and political disabilities of the Jews, notwithstanding the protests of the Conservative Magyar aristocracy; and finally in the organization of a national Honved army. When the free Hungarian people came to be looked upon as the chief bulwark of the Hapsburg Empire, when the strength and prosperity of Hungary was considered even at the expense of the Cisleithan half of the monarchy, all the Vienna traditions were thrown out of the groove, and the era was opened when the stifled nationalities of Austria could throw off the incubus of the German bureaucrats. Andrassy raised a loan of 100,000,000 florins to build railroads and public works, began the rebuilding of Budapest on a magnificent scale, and instituted grand projects for the development of the material and intellectual progress of the country. Having no taste or talent for economical or financial *minutiae* or departmental details, he not only lacked the capacity to direct and supervise the execution of his plans, but intrusted the work to men whom he selected on account of their power to grasp and advocate his large political conceptions without reference to their special knowledge or administrative training. After four and a half years of misapplied efforts, extravagant waste, and corruption, which flourished for want of efficient checks, the Andrassy era came to an end by a process of which there is scarcely another instance in the history of constitutional states. The party declared itself insolvent and incompetent, and voluntarily resigned the reins of power to Tisza and the Left. Andrassy's genius for far-reaching political combinations is exemplified by the course of action that he adopted as Prime Minister of Hungary, which has resulted, as he foresaw and intended, in the present European equilibrium. If he had not insisted on his constitutional right to be consulted regarding the foreign policy of the empire, and even gone beyond it in his efforts to influence the mind of the Emperor, Count von Beust might have dragged Austria-Hungary into an alliance with France in his desire to thwart the aims of Bismarck and, by crippling her victorious rival, regain for Austria her dominant position in Germany. This traditional and apparently inevitable policy Count Andrassy, as the representative of Magyar antipathy to the Germans and to Prussian absolutism with its leanings toward Russia, could have been expected heartily to support; yet he exerted his whole influence to

resist it, because he foresaw that if Austria resumed her preponderant position among German states the revived Hungarian institutions would be swept away by a new tide of Germanization. The man who shaped the policy of strict neutrality naturally succeeded to the direction of the Foreign Office when the speedy downfall of the military power of France demonstrated its success and obliged Count von Beust to retire. He was anxious to knit Germany to Austria-Hungary in an indissoluble alliance, and with deep prudence and penetration allowed Bismarck to draw him into the semblance of a triple alliance between the three absolute monarchies—Austria, Germany, and Russia—at the same time working to defeat Bismarck's hidden purpose of annihilating France, annexing the Low Countries, and dragging German Austria into the empire ruled by the Hohenzollerns, allowing Russia to compensate herself by going to Constantinople, and eventually engulfing the Slav nationalities. While assisting at the imperial interviews, he protested against Russian activity in the East, and when the decisive moment came, rejected Bismarck's proposal of compensation by marching to Salonica. As the guardian of Hungarian interests, Andrassy circumvented the subtle schemes of the German Chancellor, whose eyes were not opened until, in 1875, he received the distinct warning that Russia would intervene in the event of an aggressive attack against France. The prospect of a Franco-Russian alliance compelled Bismarck to reflect upon the consequences of Andrassy's declared policy of absolute neutrality, though with characteristic toughness, each clung to his preconceived aims. When the Russian army stood before the gates of Constantinople, it was Austria and England who ordered a halt, and in the Berlin Congress Count Andrassy took the leading part in compelling Russia to recede from the treaty of San Stefano. In accepting the mandate to occupy Bosnia and Herzegovina as compensation for the Russian gains, he desired to defeat the Pan Slavistic idea and make valid geographical and strategical, rather than ethnological principles in respect to the eventual partition of the Turkish Empire. The occupation was unpopular with the Austrians, and still more so with the Magyars, who were indignant at their countryman for taking part in the dismemberment of the Ottoman Empire. He anticipated no difficulty in taking possession of the provinces. It would be simply a military promenade, he promised, "with bands playing." The Ministry of War was as unready as usual, drawing from him the jibe that it was "with horses, not asses" that he expected to march to Serajevo in a few days. The revolt of the Bosnians rendered the *role* of joint protectress of the Christians of Turkey ridiculous for Austria, and the ridicule was borne by the minister whose shrewd stroke of policy had apparently miscarried. In 1879 the Austro-German alliance was concluded—not in the form that he desired of a solemn treaty, ratified by the Reichsrath and the Hungarian Parliament, but as a secret pact between the princes. It was Bismarck who dominated the situation that Andrassy had labored to bring about. Two great minds were not needed to direct the course of

the league. The Iron Chancellor, who intended to make use of the league as a prop for the principle of absolutism and for his reactionary and repressive methods of government, had no desire to work with a statesman who not only was his equal in the field of high politics and diplomacy, but was a conspicuous representative of parliamentarism and modern liberalism. In Austria Andrassy's position was impaired by his unpopular Oriental policy. He had been always disliked in the Conservative court circles as a rebel, an advocate of subversive ideas, and he incurred the active hostility of a large number of influential people during the period of his ascendancy over the mind of the Emperor by working out a great plan for the reorganization and invigoration of the civil departments and military administration that would drive a host of sleepy placemen from their sinecures. That he had lost his complete ascendancy, was revealed to him when Franz Josef refused to make public the German alliance, and still more clearly when the Emperor expressed displeasure and annoyance at Andrassy's having signed a convention reaffirming the Sultan's suzerainty over the occupied provinces and permitting Turkish troops to share the duty of garrisoning the frontier towns. The minister, wishing to retire to private life for a while, in order to restore his fortune, which he had seriously impaired by his magnificent hospitalities, resigned in the confident expectation of being recalled. All Europe wondered at the unaccountable withdrawal of one of the directing minds in international politics, and in the Hapsburg dominions no one could understand how the affairs of the monarchy could be carried on while the towering personality who had acted as chancellor and adviser of the ruler on all important matters stood idly by. Every one looked for his recall: every one knew that if he raised his voice in Parliament or in the delegations, he might have returned to the palace on the Ballplatz with the whole Hungarian nation at his back. The foreign policy of the empire followed the course that he had marked out for it. When Italy entered the league of peace, Prince Bismarck found himself compelled, after all, to act with the ministers of a modern constitutional state. Count Kalnoky did not combat the designs of Russia as vigorously as he would have done, yet he refrained from every word or act that could cause embarrassment, and awaited with dignity and patience the moment when the Emperor should call him back to his old place. When difficult questions came up, the Emperor always called him into consultation. In 1885 he rendered Tisza an important service by inducing the Hungarian aristocracy to accept the reform of the House of Magnates, and in 1890, while tortured with the fatal malady of cancer of the bladder, he sent his son to urge in his name the passage of the new Honved bill.

ANGLICAN CHURCHES. Statistics of Benevolent Contributions and Confirmations.—The Year-Book of the Church of England gives from year to year tables and reviews showing the condition and advance of the numerous institutions and enterprises connected with the Church of England, and usually contains new matter concerning interests not before,

or only briefly noticed. The eighth volume, for 1890, includes enlarged reports of convalescent homes; a new table of Sunday-School associations, containing a list of two hundred such bodies arranged by dioceses; and a digest of the discussions and acts of the various Church bodies—convocations, the House of Laymen, and diocesan conferences—during the past four years. Its tables show that the Church spends a million sterling or more every year on fresh enterprises of church extension, while also increasing nearly every year the sums raised for home and foreign missions, elementary education, hospitals, and other educational and benevolent objects. Since 1811 nearly £33,000,000 have been devoted to the building and maintenance of training schools and colleges, £17,500,000 having been spent in this manner since 1870, when the first education act was passed. In 1888 the sum voluntarily given to these purposes exceeded £888,000. The increase in the number of persons confirmed, as recorded in former Year-Books, is maintained and enlarged. From 1874 to 1876 the number averaged 144,000 a year; in the past three years the average was 220,000, showing an increase of more than 50 per cent. This growth appears to have been concurrent with the establishment of six new dioceses, and with an increase in the number of centers in which confirmations were held from less than 1,700 to more than 2,300. Of the £38,240 contributed in 1889 to the Metropolitan Hospital Sunday fund, the Church furnished £30,611. Of the whole amount of the collections for this fund for seventeen years, since it was instituted, £512,476, the Church has given £389,542, or fully 75 per cent. The record of a movement for promoting higher religious education among all classes, and more particularly among those who have some leisure on week days, is noticed in the Year-Book for the first time. It began in the diocese of Oxford, and has extended to the dioceses of Winchester, Salisbury, Exeter, Bath and Wells, and Hereford. Its method of operations consists in providing popular lectures on a Scriptural or other ecclesiastical subject for a term of weeks or months, giving individual help in classes, inviting candidates to examination, and generally inducing people to seek precise and definite knowledge on religious subjects.

Society for the Propagation of the Gospel.—The annual meeting of the Society for the Propagation of the Gospel in Foreign Parts was held May 1. The Archbishop of Canterbury presided. The gross income of the society for the year had been £125,038. There were now on the list of the society's agents, including 10 bishops, 646 ordained missionaries, of whom 205 were laboring in Asia, 147 in Africa, 14 in Australia and the Pacific, 210 in North America, 35 in the West Indies, and 35 in Europe. Of the whole number 121 were natives laboring in Asia, and 26 in Africa. There were also in the various missions about 2,300 lay teachers, 2,650 students in the colleges, and 38,000 children in the mission schools in Asia and Africa. A mission to North Borneo had been added to the society's enterprises in the previous year; the new features of the present year had been the departure of the first Episcopal Missionary to New Guinea and the consecration of the first Bishop of Corea.

Twenty-five new missionaries had been recommended for appointment.

Church Missionary Society.—The ninety-first annual meeting of the Church Missionary Society was held in London, May 6. The receipts for the year had been £260,582, and the payments £224,585. The society had in its service, at 297 stations, 282 ordained, 51 lay, and 57 women—in all, 390 European missionaries, with 287 native and Eurasian clergy, and 4,210 native teachers. The number of native Christian adherents was 187,785; of native communicants, 46,520; and of schools, 1,772, with, so far as was reported, 72,277 pupils.

Convocation of Canterbury.—The Convocation of Canterbury met for the dispatch of business Feb. 12. A petition was presented in the upper house submitting that the trial of bishops by their metropolitan otherwise than in their provincial synods is contrary to the primitive constitution and order of the Church. On a question that had arisen concerning the relations and privileges of the two houses, the upper house concurred with the lower house that declarations were objectionable which might seem either to narrow or widen the present limits of discussion in that body; defined it to be the duty of the lower house in cases in which it is proposed that the result of the discussion of any question should be the passing of a synodical act or the making of a declaration upon doctrine to bring the subject under the notice of the upper house by way of petition; and stated that the publication of documents, other than reports in their proper form, on the sole authority of the lower house, is at variance with the ancient custom and constitution of Convocation. The lower house expressed the opinion, in a resolution, "that the time has come when the Church can with advantage avail herself of the voluntary self-devotion of brotherhoods, both clerical and lay, the members of which are willing to labor in the service of the Church without appealing for funds to any form of public support," and that "the members of such brotherhoods shall be allowed to bind themselves by dispensable vows of celibacy, poverty, and obedience."

The House of Laymen declared that an early settlement of the tithe rent-charge in the present session of Parliament was urgently desired, and that such settlement should follow the lines of the Government bills of 1888 in providing for the payment of the rent-charge out of the rent of the land when the ownership and occupation are severed, and for the recovery of the rent-charge by county court proceedings. A resolution was unanimously adopted condemning the traffic in strong drink carried on by European traders among the native races of Africa "as a serious obstacle to the progress of Christianity and civilization, and opposed to the true interest of commerce." In another resolution a number of modifications were specified as required in the Burial Acts and their administration. A report, denying the power of Convocation to change its own constitution and declaring that such power lies only in the Crown and ministers, and that no effectual reform can be carried out without the intervention of Parliament, was referred back for further consideration. Resolutions were adopted respecting Sunday observance.

The Convocation met again May 6. The upper house considered and approved a revision of the form of 1714 "for admitting converts from the Church of Rome, and such others as shall renounce their errors, and for restoring those who have relapsed." The report on sisterhoods and deaconesses having been brought forward, the first section, declaring that the house, "recognizing the value of sisterhoods and deaconesses and the importance of their work, considers that the Church ought to extend to them her care and guidance," was adopted. The second section, permitting those who enter a sisterhood, after an adequate term of probation, to undertake life-long engagements to the work of the community, was amended by adding a proviso that such engagements shall be liable to release by competent authority. A statement was made in the presence of the prolocutor and assessors of the lower house, who attended for the purpose of receiving it, on question of the privileges of the lower house, in reference to which a resolution had been passed in February, and a point demanding definition was referred to the archbishop. The lower house, in reference to this subject, requested the president (the archbishop) to appoint a committee of the upper house to confer with the committee of the lower house. Resolutions passed in reference to the Educational Code embodied a declaration respecting "free education" that the house regarded it essential that no new restrictions should be placed upon the teaching of the Christian faith as held by the Church of England, or upon the moral training founded thereon in Church schools. A resolution was adopted in favor of making, in connection with the next decennial census, an enumeration of the people by their denominational affiliations. The House of Laymen adopted resolutions respecting the observance of Sunday; approving a system of diocesan church trusts; favoring a summary and inexpensive procedure for the trial of criminous clerics; inviting the institution of a "higher class" of lay readers appointed by and responsible to the bishop; recommending the institution of brotherhoods, whose rules should be approved by the bishop of the diocese, and who should work in subordination to him, and on the invitation and under the sanction of the incumbent of the parish; and opposing the Deceased Wife's Sister Bill. A resolution was adopted to the effect that the Church of England contains the framework upon which an organization for the encouragement of national thrift might be constructed, and favoring the formation of committees for the circulation of information on the subject.

Convocation of York.—The Convocation of York met for the dispatch of business April 15. A message on the subject of lay representation, submitted to the upper house by the president, was agreed to, to be transmitted to the lower house. It proposed the appointment during the year of a house of laymen. The president, in offering it, suggested that the step should be regarded as an experiment subject to revision in the first year of the next convocation, and that no part of the scheme should be regarded as final. He had been advised, and was convinced that he had no right to sanction the appointment of a lay house to sit with the House of

Laymen in the province of Canterbury. The proposed house, therefore, would be in connection with the York Convocation only. Resolutions were passed favoring the formation of boards of conciliation and the extension of co-operative associations for production; approving, in its main features, the Tithe Rent-Charge Recovery and Redemption bill; and approving the proposed new code as conducive to the best interests of elementary education. The lower house likewise approved the proposed new educational code and the Tithe Rent-Charge Recovery and Redemption bill; disapproved the Parish Councils bill; and declared the proposals contained in Mr. Osborn Morgan's Burial bill in many respects objectionable and hostile to the ancient rights and laws of the Church, and not required by liberty of conscience and freedom of worship.

The Liberation Society.—The annual meeting of the Society for the Liberation of Religion from the Patronage and Control of the State was held in London, May 7. Mr. John E. Ellis, M. P., presided. The income of the society had been £5,536, and its expenditure £5,334. A hundred more meetings in advocacy of disestablishment had been held during the past year than in the previous year. The division on Dr. Cameron's motion for disestablishment in Scotland was regarded in the annual report with great satisfaction. The committee believed the tithe bill, whether passed or not, would advance the cause of disestablishment. A dozen measures were before Parliament designed to promote religious equality, but the appropriation of so much time by the Government prevented any progress being made with them. Attempts were made to secure the power of self-government for the Church without lessening its privileged position; but such attempts must be resisted while the Church remained established. Resolutions were passed expressing satisfaction at the progress of disestablishment in Scotland; favoring disestablishment in Wales; affirming the necessity of popular control as an accompaniment to free education; calling for the national appropriation of tithes; and opposing the inquiry into religious professions, which it was proposed to include in the decennial census about to be taken, as being beyond the province of the state and likely to produce untrustworthy and misleading results. At the public meeting of the society Mr. Campbell Bannerman, M. P., asserted that the cause of disestablishment was moving forward in Parliament "by leaps and bounds." In 1886, only 366 persons, including pairs, had voted on Mr. Cameron's motion for Scotch disestablishment; in 1888 the number rose to 528; and in the vote taken a few days before it was 560. Forty-three Scotch members were in favor of it, to 24 against it.

The "Bell Cox Case."—Final judgment was given by the House of Lords early in August in the case of the Rev. J. Bell Cox, of Liverpool, who was imprisoned for illegal practices in ritual, but was discharged on *habeas corpus*. The promoter of the suit appealed, and the judgment of the court below was reversed. The judgment of the House of Lords is to the effect that no appeal court can interfere with a subject when once set at liberty under a *habeas corpus*.

The main question, concerning the legality of Mr. Cox's position on ritual, is not affected by this decision.

The Church House.—The annual general meeting of the Church House Corporation was held on its newly purchased premises in Westminster, June 26. The Archbishop of Canterbury presided and set forth the present condition of the Church House enterprise. The greatest difficulties had been overcome; the body was in possession of its property, a corporate seal had been obtained, and the library had grown to nearly 9,000 volumes. It was agreed to begin immediately the erection of a permanent building, the estimates for which called for the sum of £35,000. Of this, £9,200 were in hand.

Church Congress.—The annual Church Congress met at Hull, Sept. 30. The Archbishop of York, who was to have presided, being ill, the Bishop of Durham occupied the chair and delivered an address in which he discussed the "social question" as in its amplest range a religious question. The subject of "Church and State" was considered under the heads of "Different Forms of Relation in our Own and Other Churches and Results of Relation to Church and State respectively" and "Experiences of Disestablished and Free Churches," by Mr. J. G. Talbot, M. P., Bishop Barry, the Rev. T. Moor, and Chancellor Dibdin. The discussion of the next subject, "The Church's Attitude toward Strikes and Wages' Disputes with Reference to (a) Laborers, Skilled and Unskilled, (b) Combinations of Employers, and (c) the General Public," was participated in by Prebendary Harry Jones, Mr. David Dale, and several impromptu speakers; that of "Systematic Instruction in Religion (a) in Schools and Universities, (b) in Pulpit Ministrations, and (c) by Literature and Lectures," by the Bishop of Edinburgh, the Rev. Principal Moule, the Rev. Canon Woolledge, of Imro Cathedral, and the Rev. A. R. Buckland. Questions respecting sanitation were presented under the three heads of "Acquaintance with and Obedience to Sanitary Laws a Christian Duty; Present Condition of Laborers' and Artisans' Dwellings, in View of Recent and Proposed Legislation; Duty of the Church in the Promotion of Practical Reforms," by the Bishop of Bedford, the Rev. Arthur Robins, Dr. Alfred Carpenter, and volunteer speakers. The discussions of the second day's session included "Home Reunion—Common Grounds of Union; Differences which most hinder Reunion; and Suggested Schemes of Reunion and Intercommunion," by the Archbishop of Dublin, the Bishop of Glasgow, the Rev. Prof. Lumb, Canon George Venables, the Rev. Principal Moule, Mr. P. V. Smith, Bishop Barry, Major Seton Churchhill, and Canon Frenantle; "Foreign Missions, with Special Reference to Africa—(a) Present Condition and Prospects, and (b) Equipment and Training of Missionaries," by Sir John Kenway, M. P., Bishop Smythies, Commander Cameron, the Bishop of Sierra Leone, and others; "Betting and Gambling," by the Rev. and Hon. E. Carr-Glynn, Major Seton Churchill, the Rev. W. Allen Whitworth, the Dean of Rochester, and in general discussion; "Faith as a Principle of Action, considered as a Duty, (a) as a Natural Principle, and (b) as a Christian Prin-

eiple," by the Bishop of Wakefield, the Rev. Dr. Wace, the Bishop of Sodor and Man, Canon Woolledge, Sir Andrew Clark, M. D., and others; "Women's Work among Women, at Home and Abroad," by Mrs. Sumner, of the Mothers' Union, Winchester, Miss E. Mulvaney, the Bishop of Southwell, and informal speakers; and "Socialism (a) Modern Theories and Aims of Socialism; (b) Examination of them in the Light of Christianity," by the Bishop of Durham, the Rev. M. Kaufmann, the Hon. Judge Hughes, Sir John Gorst, M. P., Bishop Barry, and general discussion. The third day's session was opened with a discussion of the subject of "Brotherhoods: Recent Proposals for their Formation; Alternative Schemes," by Archdeacon Farrar, the Bishop of Liverpool, the Rev. W. H. Hutchings, and speakers in general debate. Other subjects treated of during the day were "The Due Limits of Ritual; how to define them and how to secure them," by the Bishop of Guildford, Viscount Halifax, the Dean of Windsor, the Dean of Peterborough, Canon Bardsley, Archdeacon Straton, and others; "The Inspiration of the Holy Scripture," by the Dean of Peterborough, Prof. Margoliouth, the Rev. Canon Tristram, Principal Waller, and the Dean of Armagh; "The Work of the Church and the Responsibility of Employers with Respect to the Spiritual Welfare of those whom they employ, (a) Ship-owners and Seamen; (b) Contractors and Navvies; (c) Manufacturers and their Workpeople," by the Bishop of Newcastle, the Rev. E. Grimston, the Rev. C. M. Woosnam, and the Rev. W. B. Forwood; "Free Elementary Education; its Results in Foreign Countries; its Effect on Education generally; and its Effect on Religious Teaching and Voluntary Schools," by Mr. J. R. Diggle, chairman of the London School Board, the Rev. J. C. Thompson, and the Rev. C. Dunkley. The subjects for the fourth day were "Reverence (a) for the Name and Power of God; (b) for God's Holy Day; (c) for the Holy Spirit in Young People and Children," considered in papers by Canon Newbolt, the Rev. J. E. C. Welldon, the Bishop of Wakefield, Archdeacon Blunt, the Rev. E. A. Stuart, and Canon Girdlestone; "The Ethics of Commerce, (a) Christian Conception of Commerce; (b) Speculation and Christianity; (c) Commerce and the Spread of Christianity in Other Lands," by Archdeacon Farrar, Mr. Sydney Gedge, M. P., Canon W. H. Fremantle, Mr. Stephen Bourne, the Rev. Dr. Cunningham, of Cambridge, Sir Albert Rollit, M. P., the Rev. J. Grant Mills, and the Bishop of Wakefield; and "Country Parishes, their Difficulties and Needs and Modes of meeting them," by the Rev. Chancellor Esplin, Canon Temple, the Rev. Prebendary Ainslie, and other speakers.

A General Synod in Canada.—A scheme was approved at a meeting held in Winnipeg, Manitoba, in August, for the formation of a general synod to embrace the Dominion of Canada and Newfoundland, in which the several synods shall be represented by delegates. It provides for the retention of the existing systems of diocesan and provincial synods, so that the organization of the Canadian Church will be in three grades of jurisdiction, represented by the diocesan, the provincial, and the General synods. The president of

the General Synod—having the title of primate—will be elected from among the provincial metropolitans. The plan of representation contemplates that dioceses having fewer than twenty-five licensed clergymen shall be entitled to one delegate for each order; those having more than twenty-five and fewer than fifty, two for each order; dioceses having more than fifty and less than a hundred licensed clergymen, three for each order; and larger dioceses four for each. The synod shall consist of two houses, the bishops constituting the upper house, and the clergy and laity together the lower house. The primate shall hold office for life, or so long as he is a bishop in any diocese in the General Synod. Such objects will come properly under the jurisdiction of the General Synod as matters of doctrine, worship, and discipline; agencies employed in carrying on the work of the Church; missionary and educational work; the adjustment of relations between dioceses in respect to clergy, widows' and orphans', and superannuation funds; regulations respecting the transfer of clergy from one diocese to another; education and training of candidates for holy orders; constitution and powers of an appellate tribunal; and the erection, division, or rearrangement of provinces. The synod is to meet for the first time in Toronto on the second Wednesday of September, 1893.

ANTI-SLAVERY CONFERENCE. The general act of the Berlin Conference, signed Feb. 22, 1885, contains an article whereby the powers exercising rights of sovereignty or any influence in the territories of the conventional basin of the Congo undertake to watch over the preservation of the native races and the improvement of their moral and material conditions of existence, and to co-operate in the suppression of slavery, and especially of the negro traffic; also to protect, without distinction of creed or nationality, institutions created for this object or tending to instruct and civilize the natives. At the suggestion of the British plenipotentiaries another article was added containing a declaration of the same powers that the territories over which they exercise sovereignty or influence can not serve as a market or means of transit for slaves, and a promise on their part to employ all means in their power to put an end to the traffic and to punish those who take part in it. In March, 1889, pending the blockade of the coast of Zanzibar, the British House of Commons adopted a resolution calling on the Government, in view of the increasing and extending desolations in Africa caused by the slave trade, to take steps to ascertain the willingness of the powers to meet in conference for the purpose of devising measures for its suppression that should be at the same time effective and in accordance with justice and international law, giving complete effect to the declarations delivered by the Congress of Vienna in 1815 and the Conference at Verona in 1822. The British Government resigned the initiative to King Leopold, who consented to summon a conference of the powers signatory of the Berlin general act to meet at Brussels in the autumn to consider the present condition of the slave trade by land and sea, and to deliberate on measures for arresting or mitigating its evils. The object, as defined in his circular, was to "effectively prevent the slave

trade in the interior of Africa, the capture of slaves destined for sale, and their transport by sea," which can only be stopped by "the organized display of force greater than that at the disposal of those taking part in the traffic."

The states represented by plenipotentiaries or delegates at the conference, which met on Nov. 18, 1889, were Austria-Hungary, Belgium, Congo Free State, Denmark, Germany, Great Britain, Italy, Netherlands, Persia, Portugal, Russia, Spain, Sweden and Norway, Turkey, United States, Zanzibar. The Prince de Chimny requested that Baron Lambert, whose knowledge and labors in connection with African matters specially fitted him for the office, should be chosen in his stead to preside over the meetings. The circular of invitation left it for the powers to decide on the programme of the conference and on the scope and nature of the measures to be considered, and the British plenipotentiaries, as representing the Government that was jointly responsible with the Belgian Government for convening the conference, offered their views of the subjects requiring consideration, placing first in order, as being the most susceptible of effective treatment, the maritime slave trade, to deal with which they proposed an international understanding, not conflicting with the rights of powers not bound by treaties, affecting only the circumscribed zone within which the traffic is confined, and especially the shores of the Red Sea; next, joint action against slave raiders; then, the suppression of the markets of destination; and finally, restriction of the traffic in liquor and in arms and ammunition, as affecting the social and moral condition of the natives, and thus indirectly the slave trade also. Committees were appointed to deal simultaneously with the slave trade in its three manifestations as defined in the scheme presented by Baron Lambert: (1) Its inception and the inland traffic; (2) the maritime traffic; (3) the destination or ultimate market of the slave.

The English Government took the lead in presenting propositions, and in bringing forward at the outset the subject of the maritime traffic the British plenipotentiaries designed to place France in the position of obstructing the whole treaty unless she conceded a limited right of search. In 1844 she joined the United States in opposing the proposed mutual right-of-search convention for the suppression of the slave trade, and refused to subscribe to the convention that was contracted between Austria, Great Britain, Prussia, and Russia. The United States in 1862 entered into a right-of-search treaty with Great Britain; yet France has firmly adhered to the ground then taken against the searching of vessels bearing her flag in time of peace by the men-of-war of any other country. The British naval officers who have been charged with the duty of patrolling the Zanzibar coast have sometimes accused the French of protecting the slave trade by granting registration to slave dhows, and the French have complained of the violation of vessels carrying their flag. The article proposed for the consideration of the conference by the British plenipotentiaries provided that within the zone infected with the slave trade the signatory powers should jointly and severally have the right of supervision over all sailing vessels

under any flag, either on the high seas or in territorial waters, and that they should have power to detain vessels suspected, directly or indirectly, of being engaged in the slave trade, and to bring or send them to port for judgment before an international tribunal. The phrase "visit and search" of the old treaties was changed into the words "supervision" and "detention," in order to appease French public opinion as far as possible. The French Government took a month to reflect on its course, and then gave notice of a counter-project based in part on the British proposition and in part on a confidential instruction drawn up by the British and French governments in 1867. The French scheme accepted the British limitation of the contaminated zone, more precisely defined, and approved the creation of an international tribunal. The crucial point of detention and supervision was reduced to the right of stopping sailing vessels and ascertaining that their papers were in order. Stringent new regulations were proposed for preventing improper persons from obtaining leave to use the flag of any of the signatory powers and for officially inspecting the crew and passengers and checking the lists at every port, which, in the opinion of the French Government, would render further supervision unnecessary. The British Government, for the sake of promoting an agreement, proposed to limit the class of vessels subject to supervision to craft not exceeding 500 tons, and to restrict the application of existing right-of-search treaties to the infected zone. The proposal for instituting an international tribunal was dropped, and provision was made for liberating slaves and dealing with slavers on the spot, without conveying them to the country whose flag the captured vessel displayed, as required in the old treaties. The propositions from both sides were framed into a single project by Prof. F. de Martens, one of the Russian plenipotentiaries, which was made the basis of the deliberations of the maritime committee.

The premature disclosure of the proposed prohibition of the traffic in firearms stirred up the manufacturers of Birmingham and the speculators who supply African slave hunters with discarded army rifles, who influenced the British Government to recede from its first intention. The Dutch, German, Italian, and Portuguese plenipotentiaries, as well as the British, favored the mere regulation of the traffic, though the French contended strongly for its entire suppression. The English proposition in regard to the liquor traffic was to impose the prohibitive duty of 200 francs per hectolitre in the coast and Lower Congo regions where the trade now exists, and to forbid imports elsewhere. Though warmly seconded by the French plenipotentiaries, this and the subsequent proposal of a duty of 50 francs were rejected through the influence of the German distillers and Dutch traders, who obtained a tariff that they declared would not disturb trade or reduce consumption, as it raises the price of spirits in Africa, which was five cents a quart, to eight cents only. The German Government was non-committal; but the representatives of the Netherlands strenuously opposed any duty on the ground that it violated the Congo general act, which guaranteed freedom of trade for twenty years. Mr. Sanford, one of the rep-

representatives of the United States, suggested the exclusion of spirits unfit for use by condemning and confiscating those that are found imperfectly rectified or adulterated.

Baron Lambert offered a proposition to enable the Free State of the Congo to levy duties on imports not to exceed 10 per cent. *ad valorem*. The representatives of the Congo State pointed to the development of trade and civilizing activities in the Congo region, surpassing the expectations of the framers of the general act of 1885, and urged the necessity of a larger revenue to enable their Government to protect that trade and to carry out the duties imposed on it by the treaty under consideration. Mr. Terrell, representing the United States, questioned the competence of the conference to revise the general act of the former African Conference, and the Government of the Netherlands, encouraged by this unexpected support, stubbornly adhered to the stand it had taken, refusing to give its sanction to either a duty on liquor or a general tariff in the conventional basin of the Congo. Turkey and Persia reserved their rights of sovereignty over the ports where it was proposed to watch against the landing of slaves, while accepting the duty of co-operating in the suppression of the African slave trade without disturbance of the existing status of domestic slaves. Caratheodori Effendi did not sign the general act, as his Government, with its habitual slowness, wanted more time to examine its provisions. Turkey and Holland were given six months to sign. The plenipotentiaries of all other powers put their names to the general act on July 2. On July 18 it was signed by the Turkish minister at Brussels.

The first chapter, dealing with the suppression of the slave trade by land, declares the most effective means to be the organization of civil administration, justice, and religion; the introduction of roads, railroads, and steamboats; the establishment of military posts and scouting expeditions; and the restriction of the importation of improved firearms. The powers exercising a sovereignty or protectorate in Africa engage to make laws punishing as felonies slave hunting, mutilation of male infants, transportation of slaves, and mercantile dealings in them, and to extradite persons charged with any of these offenses. A fugitive slave shall receive asylum in the camps and stations or on board the cruisers of any of the signatory powers, but private stations or boats without the authorization of the state are not permitted to extend the right of asylum. Slaves liberated on the stopping of a caravan must be sent to their homes, if possible. The prohibition of the importation of firearms is laid down; as a principle, with exceptions for the case in which the sovereign or protecting power thinks it desirable to permit it on its territory. In this case the arms are to be deposited in a public warehouse, and can only be withdrawn by permission of the authorities, though flintlocks and common powder may be stored in private warehouses. No arms must be sold in districts infected with the slave trade, and no breech-loaders, repeating rifles, or cartridges can be taken out of bond except by persons having a license to bear arms. The zone to which the regulations relating to firearms apply extends from 20° of north latitude to 22° of south latitude and

from the Atlantic to the Indian Ocean, including islands within one hundred marine miles of the shores. A power occupying a coast district giving the only access to the inland territory of another power can not forbid the transit of munitions destined and declared to be for the use of the public authorities, except provisionally in the case of disturbances.

The second chapter deals with the caravan routes and binds the powers having possessions in Africa to establish posts for intercepting convoys and to examine caravans at their places of destination. Any person previously condemned for taking part in the slave trade will not be permitted to engage in a commercial expedition without giving security.

The third chapter contains the provisions for the suppression of the slave trade by sea. The maritime zone is bounded by the coasts of the Indian Ocean, the Red Sea, and the Persian Gulf from Quilimane to Belochistan, by a line extending obliquely to Cape Ambre, then by a line passing round the island of Madagascar and westward along the 26th parallel of south latitude, till it meets the meridian of Cape Tangalane, and then by that meridian running northward to Quilimane. The limitation of the right of search to vessels under 500 tons shall be revised if larger vessels engage in the slave trade. An international office for the exchange of information regarding the slave trade and persons engaged in it will be established at Zanzibar.

The fourth chapter relates to countries of destination. The contracting powers having possessions in or out of Africa in which the institution of domestic slavery is recognized bind themselves to prohibit the importation, transit, and exit of African slaves and all trade in them, and to exercise stringent supervision at all points of entry and exit. Fugitive slaves entering their dominions shall be free. Penal laws will be enacted against importers and traders in African slaves and perpetrators of mutilations. The Sultan of Turkey promises to watch the western shores of Arabia; the Shah of Persia engages to exercise a close supervision in the Persian Gulf and the Gulf of Oman and the inland routes; and the Sultan of Zanzibar binds himself to assist in repressing slave-trade offenses and to establish a liberation bureau. The next chapter contains provisions relating to the International Maritime Bureau at Zanzibar, the exchange of documents and data between governments, and the protection of liberated slaves.

The powers possessing territories in the zone between 20° of north latitude and 22° of south latitude agree to prohibit the importation or manufacture of distilled liquors in districts where, on account of religious belief or for other reasons, their use has not been introduced, and in other districts where they are freely admitted or are subjected to a duty of less than 15 francs per hectolitre they engage to levy a duty of that amount for three years. The duty may be increased to 25 francs for a fresh period of three years, and at the end of that time the powers have a right to maintain higher duties where they have them already and to increase them. At the end of six years the article shall be subjected to revision for the purpose of fixing a minimum duty throughout the whole extent of

the zone. Distilled drinks manufactured in the country must be subjected to a duty equal to the duty on imports.

ARGENTINE REPUBLIC, a federal republic in South America. The Constitution in its main features resembles that of the United States. The central executive power is vested in a President elected for six years by representatives of the fourteen provinces equal to double the number of Senators and Deputies combined. The National Congress consists of a Senate numbering two members from each province, elected by the Legislatures, and two from the capital, elected by a special body, and of a House of Deputies containing 86 members, who are voted for directly by the people. The President, who was installed on Oct. 12, 1886, is Dr. Miguel Juarez Celman. The Vice-President is Dr. Carlos Pellegrini. The ministry consists of five Secretaries of State, who are appointed by the President and are responsible to him. It was composed in the beginning of 1890 of the following ministers: Interior, Dr. N. Q. Costa; Foreign Affairs, Dr. Estanislao S. Zeballos; Finance, Dr. W. Pacheco; Justice, Dr. F. Posse; War and Marine, Gen. E. Racedo.

Area and Population.—The area of the country is 1,125,086 square miles. The 14 provinces, having an area of 515,700 square miles, had in 1887, according to an official estimate, 3,876,654 inhabitants. The population of the territories, covering 609,386 square miles, is estimated at only 170,000 persons. Buenos Ayres, the capital, had a population of 521,322 in November, 1889. Including the suburbs, it contained 538,385 people, of whom 150,000 were foreigners. Cordoba in 1887 had 66,000 inhabitants; Rosario, 55,000; Tucuman, 40,000; La Plata, 40,000. The population of the Republic has more than doubled in twenty years, the increase being chiefly due to immigration. Between 1870 and 1886 the excess of immigration over emigration was 634,266. In 1887 the number of immigrants was 136,842; in 1888, 180,993; in 1889, 289,014. The emigration since 1880 has varied between 9,000 and 14,000 annually. Of the total arrivals during the period 1880-'87, about 70 per cent. were Italians, 10½ per cent. Spaniards, 7½ per cent. French, and 12 per cent. from other countries. The number of foreigners in the Republic in 1887 was 600,000, comprising 280,000 Italians, 150,000 French, 100,000 Spaniards, 40,000 English, 20,000 Germans, and 10,000 of other nationalities.

Production and Commerce.—Not more than 1 per cent. of the area of the 14 provinces and 5 territories is under cultivation. The area sowed to wheat in 1889 was 1,035,000 hectares; to Indian corn, 850,000 hectares; to flax, 140,000 hectares. The alfalfa crop covered 379,816 hectares in 1888; oats, 36,659 hectares; the vine, 26,931 hectares; sugar-cane, 21,053 hectares. The total value of the harvest of 1889 was estimated at \$100,255,000. The live stock in 1888 numbered 22,869,385 cattle, 4,398,283 horses, and 70,453,665 sheep, valued altogether at \$369,561,607.

The total value of the merchandise imports in currency was \$164,245,428 in 1889, against \$128,378,512 in 1888; of the exports, \$122,596,563, against \$99,974,832. The imports of coin and bullion in 1889 were \$11,749,759, against \$44,

810,150 in 1888; the exports \$28,431,251, against \$8,734,500. The trade with the principal foreign countries in 1889 was as follows:

COUNTRIES.	Imports.	Exports.
Great Britain	\$56,990,304	\$25,331,946
France	94,650,480	84,465,367
Uruguay	18,552,966	17,612,952
Germany	15,618,758	17,164,498
Belgium	13,896,081	16,390,908
United States	10,860,069	7,782,850

The imports of textiles and apparel in 1888 amounted to \$29,008,445; of iron and manufactures thereof, \$17,643,134; of railroad, telegraph, and other material, \$15,472,332; of food substances, \$14,561,347; of drinks, \$12,351,829. The exports of animals and animal products were of the value of \$71,075,955; of agricultural produce, \$16,298,360; of manufactured products, \$8,105,847; of mineral products, \$1,526,057. The wool exports were valued at \$44,858,606; hides and skins, \$22,392,105; wheat, \$8,248,614; Indian corn, \$5,444,464. The export of frozen mutton increased from 434,609 carcasses in 1886 to 873,460 in 1888, or in value from \$360,508 to \$1,459,672, reckoned in currency, and that of other frozen meat showed an increase in value from \$1,876 to \$3,415,327, while preserved or salted meat, consisting mainly of dried beef, fell away from \$3,738,820 to \$12,185.

Revenue and Expenditure.—The estimates of receipts for 1889 and 1890 were as follow:

REVENUE.	1889.	1890.
Import duties	\$39,750,000	\$48,000,000
Railroads	120,000	
City taxes	8,800,000	8,950,000
Banks	4,054,000	7,700,000
Stamps and Post-Office	5,300,000	6,050,000
Various receipts	7,700,000	8,670,000
Total	\$60,224,000	\$74,370,000

The estimated expenditures of the various departments for the same years were as follow:

EXPENDITURE.	1889.	1890.
Interior	\$15,611,218	\$16,287,406
Finance	24,746,772	25,989,898
Instruction	8,757,525	9,517,926
War	8,810,789	9,507,889
Marine	2,908,712	4,029,440
Foreign Affairs	1,446,120	2,600,280
Total	\$61,781,428	\$67,881,884

The total revenue in 1888 was \$57,651,711, and the expenditure \$50,801,763. The exterior national debt amounts to \$127,263,000, on which the annual interest and sinking fund amount to \$11,500,000 in gold. In addition to this, \$29,140,900 of the interior debt has been placed abroad, requiring \$1,748,454 to pay the interest and amortization charges. The national interior debt held in the country amounts to \$162,920,153, of which \$68,778,298 bear no interest. The floating debt is about \$5,000,000, the interest on which is \$250,000. The Government pays \$2,950,000 of guaranteed interest to railroads, and has undertaken to pay \$2,975,000 more. These payments are merely advances that will be returned from the future receipts of the railroads.

Navigation.—The number of vessels entered at Argentine ports in 1887-'88 was 13,493, of

4,885,777 tons; the number cleared 10,810, of 4,319,439 tons. Of the total tonnage 30 per cent. was national, 30 per cent. British, 16 per cent. French, and 7 per cent. Italian.

Railroads.—There were 6,940 miles of railroad completed in 1889, and 2,990 miles under construction. The receipts were \$21,000,000 and the expenses \$12,250,000 in 1888.

Post-Office and Telegraphs.—Of 14,700 miles of telegraph lines in operation in 1888 the state owned 7,300 miles. The total length of wires was 25,550 miles. The number of dispatches in 1889 was 3,511,420. In November, 1889, a concession was granted for a direct cable between Buenos Ayres and Europe, to be ready for operation within two years and a half. The postal traffic in 1889 was 42,965,555 letters, 965,269 postal cards, and 32,793,607 newspapers, etc.

The Army and Navy.—The regular army consists of 1,000 artillery, 2,500 cavalry, and 3,500 infantry, exclusive of officers, who number 1,129 of all grades. The militia comprises 236,000 men between the ages of seventeen and forty-five years.

The navy in 1889 comprised 1 sea-going armor-clad, the "Almirante Brown," of 4,200 tons displacement, with 9-inch steel-faced armor; 2 iron-clad monitors; 1 deck-protected cruiser; 6 gunboats; and 9 torpedo boats, besides dispatch boats, transports, and sailing vessels. Two torpedo gunboats, each armed with 6 Nordenfeldt quick-firing guns, 2 gatling guns, and 5 torpedo tubes, were launched in England in 1890.

Financial History.—The material development of the Argentine Republic was begun by the reforms of Gen. Roca, who became President in 1880. In the former era, when cattle-breeding was the only large industry of the country and hides were almost the only article of export, the city and province of Buenos Ayres dominated the confederation, and political power was attained by adventurers who lavished their money in attaching to their fortunes a sufficient following of *guacho* desperadoes, the semi-civilized half-breed cattle-men of the plains, who constituted the only fighting class in the community. Roca neutralized this turbulent element by creating a disciplined army armed with repeating rifles. The federal republic became more of a reality when the city of Buenos Ayres was separated from the province and made the national capital, and the provincial debt was assumed by the Federal Government, and when public improvements were introduced with the aid of the Central Government in the other provinces. With the promise of orderly political conditions and the encouragement given by the Government to agriculture and sheep growing, capital and labor poured into the country from Europe. The building of railroads, mainly with money borrowed in England, was attended with jobbery and political corruption of the most flagrant character. A period of excessive speculation followed, and this was stimulated by European bankers, who, on the strength of the remarkable growth of production and commerce, could find a ready market for any kind of Argentine securities. Even *cedulas*, a species of mortgage bonds secured on private lands payable to bearer, that were issued on the guarantee of the Provincial Hypothecary Bank, a branch of the Pro-

vincial Bank of Buenos Ayres, were put on the market, first by the Deutsch Bank of Berlin, and found purchasers all over Europe. The Provincial and Hypothecary banks, which, through the privileges granted by the Government of Buenos Ayres, possessed almost a monopoly of the credit business of the country, were owned and controlled by Buenos Ayrean politicians, who exerted their financial influence to secure the succession to the presidency for the governor of the province. To counterbalance their power, President Roca, who had selected his brother-in-law, Juarez Celman, to succeed him, founded, in 1884, the National Bank, which was made the fiscal agent of the National Government and of all the provinces except Buenos Ayres, and to this the Congress annexed in the following session a National Hypothecary Bank, with power to issue *cedulas* on real estate in the capital and national territories. These transferrable mortgage deeds, passing from hand to hand, served as a kind of money, and thus inflated the circulating medium. By means of these financial institutions and by military and official violence and intimidation, Celman was elected and the ascendancy secured for the "Cordoba gang," who have the reputation among the Argentines not of their province of being the most corrupt band of public plunderers that ever infested and ruined a prosperous country. These charges they met at the beginning of Celman's administration by an investigation of the affairs of the Provincial Bank, which proved fraud and speculation to be rife also among their rivals, the politicians of Buenos Ayres.

Paper money stood at par with gold from 1883 till 1885, the amount in circulation when it began to depreciate being \$58,000,000. In those two years foreign commerce increased by \$33,810,699. The revenue of the Government increased rapidly, and expenditures at a still greater rate. With the influx of Italian and Spanish immigrants began an era of wild speculation and the creation of fictitious values. In response to a call for an increased circulating medium, the Congress authorized the National Bank to issue \$41,000,000 additional of paper currency. Under the pretense of reforming the financial system and creating a secured currency, but in reality to satisfy the demand for inflation, a law was passed on Nov. 3, 1887, establishing a system of national banks on the model of those of the United States. Under this law there sprang into existence forty banks, with a capital of \$350,000,000, and by October, 1889, they had issued \$158,000,000 of currency, secured by national bonds deposited with the Government. This emission and the continued influx of British, French, Belgian, and German capital, led to a still greater inflation of values. From \$750,000,000 to \$1,000,000,000 of English capital is said to be invested in the Argentine Republic and its securities. The goldagio, instead of being lowered by the national banking law, was aggravated. Then came the free banking law, and in a little while the issue of paper currency amounted to \$190,000,000, which was increased subsequently to \$225,000,000 by clandestine issues that were legalized by the Government. The *cedulas*, which were practically an addition to the paper currency, continued to be issued

without restriction, the total amount outstanding on July 1, 1890, being \$411,440,000. The Government attempted to check the depreciation of the currency by the childish and futile expedient of prohibiting speculation in gold, and at the same time authorized a new emission of \$40,000,000 of bank notes. The movement was momentarily arrested by the law passed on Oct. 18, 1889, ordering the currency issues to be gradually reduced to \$100,000,000, and declaring that no new notes should be issued before May 1, 1891. Taking advantage of a reaction in speculative values and the general distrust of the capabilities of the ministers to deal with the crisis, manipulators of the gold market afterward sent up the premium to 215. The mercantile community saw ruin before them, and the laboring classes, who form three fourths in number of the depositors in the banks, witnessed their savings reduced by two thirds, with the prospect of the dollar becoming worth only five cents in gold, as formerly. A mass meeting was called in Buenos Ayres, which was attended by 15,000 armed men, and a revolution was imminent, when the pressure of public opinion made the ministers, who with the President were held to be chiefly responsible for the financial crisis, resign. When Francisco Uriburu assumed the department of Finance, in April, 1890, his advent was welcomed by an immediate fall in gold of 75 points. The corruption of the previous ministers was made apparent by the discovery of custom-house frauds amounting to ten or fifteen million dollars a year. An English syndicate that was heavily interested in Argentine securities bought the Western Railroad of Buenos Ayres from the state for \$41,000,000 in gold, in order to provide means to arrest the crisis. But this object was frustrated by the surreptitious issue of additional paper currency, on the discovery of which Señor Uriburu called for the removal of Señor Pacheco and the other directors of the National Bank.

The New Financial Programme.—President Celman saved himself by changing ministers, and his fate depended on the performance of the new Cabinet. At the opening of the Congress on May 10, he declared that it was not the intention of the Government to inflate the currency, but to reduce expenditure, and proposed that import duties should be made payable half in gold, a measure that was carried out. He declared that, instead of discouraging, he would welcome the formation of opposition parties. The bane of Argentine politics has been the dictatorial and partisan exercise by the President of powers far in excess of any contemplated in the Constitution and the subordination of all the interests of the country to the advantage of the party in control of the Government. No President had made himself more hated than Juárez Celman. But even his enemies regarded his acceptance of independent ministers and his patriotic professions as indicative of a radical change of methods and policy. Señor Uriburu arranged the preliminaries of an English loan of £10,000,000 sterling, and on June 7 the Cabinet approved his financial scheme, including the dismissal of the Government directors of the National Bank. Dr. Celman was not sufficiently free from party dictation to sanction this step, and when he re-

fused to sign the order Señor Uriburu resigned, and on June 9 was succeeded by Juan Augustin García. The Minister of Justice likewise retired, José Antiqueta taking this portfolio. Señor García promised to carry out the economical and administrative reforms announced by the retiring minister, and to place the currency on a sound basis by realizing on the securities in the treasury of the value of \$65,000,000, and concluding the English loan on the conditions proposed, which were that no new paper currency or *cedulas* should be issued for three years. In order to rescue his friends from the consequences of the illegal issues of notes that had already been made, the President decided to reverse this policy. On July 7 he sent a message to the Chambers authorizing the issue of \$100,000,000 of *cedula* or hypothecary notes. The financial situation was already disturbed by the passing of dividends by the National Bank. The price of gold rose to 215. Distrust of the Government and of the National Bank, increasing with each new authorized or unauthorized emission of bank notes, caused an actual dearth of money because the banks added to their reserves as the situation became more critical, and thus withdrew more and more currency from the general circulation. Individuals also began to hoard, losing faith in all banks. Some clamored for the issue of notes to take up all the *cedula*, others for unlimited emissions of paper, with the cancellation of all gold contracts.

Revolutionary Outbreak.—The Union Civilica was a party organized to oppose the criminal improvidence and misgovernment of the President and his party. Celman was reputed to have amassed a fortune of \$50,000,000 in gold during his tenure of office, while his subordinates were said to be more dangerous and unprincipled than himself. For months the assassination of the President was debated as the best means of ridding the Republic of the incubus under which it was sinking. When a state of panic resulted from the violation of his pledges of reform, with gold fluctuating between 200 and 300, and the credit system in danger of breaking down altogether, the revolutionary spirit rose to the critical point. Without the army a revolutionary uprising must necessarily fail; but in the army the Opposition had strong and devoted adherents. It was among the officers that the violent overthrow of the Government was favored, rather than among the civilians, who feared that the effects would be more disastrous to the country than the evils of bad government. Two officers, named Palma and Morisine, informed the civil authorities that there existed among their brother-officers of the garrison of Buenos Ayres a conspiracy to upset the Celman Government and banish the President from the country. In consequence of their revelations Gen. Campos, Col. Figueroa, Maj. Casariego, and other officers were arrested and armed police and cavalry were set to watch suspected bodies of infantry and artillery. These measures did not tend to allay disaffection, and the situation was felt to be so grave that Gen. Roca, Vice-President Pellegrini, and other leaders of his own party warned Celman that he must promptly adopt a reform policy to avert disaster. On July 23 he promised to submit the nomination of his successor to a convention of all former

office-holders, and to abstain from official interference in the elections.

An insurrection broke out on the morning of July 26. It was begun by the troops commanded by the imprisoned officers, the artillery making the first manifestation. The leaders of the Union Civica joined the insurgent troops with many civilians, who were armed with Remington rifles that were provided for them. Only two battalions of infantry and the police remained faithful to the Government. The police began the firing. The barracks and the arsenal were in the hands of the Opposition. Gen. Manuel J. Campos, who, with the other imprisoned officers was set at liberty, took command. The people of the city were in sympathy with the movement, and many of them took part in the fighting, firing on the police from their houses. A regiment of artillery, three of infantry, the engineers, and the school of cadets were engaged in the insurrection. A revolutionary committee, composed of the leaders of the Union Civica, took control and issued edicts as a provisional government. They were Dr. Leandro N. Alem, the President of the Union Civica, Lucio Vicente Lopez, Professor of Constitutional Law in the university, Aristobulo del Valle, ex-President of the Senate, Juan José Romero, ex-Minister of Finance, Michael Goyena, ex-Minister of Justice and ex-President of the Chamber of Deputies, and Mariano de Marín, a distinguished lawyer and former Deputy. The result of the first day's fighting, which was very severe, was adverse to the Government. On the 27th, a battalion of the Government troops went over to the insurgents. The President went to San Martín on the first day to bring provincial troops to his aid. He proclaimed the country in a state of siege, and called out the National Guard at Buenos Ayres, Córdoba, and Santa Fe. Dr. Pellegrini directed operations on the side of the Government. On the second day the artillery and the ships in the harbor, the navy having chosen the popular side, fired on the Government House. An armistice was arranged in the afternoon. The Minister of War was wounded, and the Minister of Finance made prisoner by the Civicas. On the morning of the 28th, before the armistice was over, Dr. Celman returned with fresh troops, consisting of a large force of *gaucha* militia and forty pieces of artillery. The Union Civica had not pressed the advantage gained on the first day, but had agreed to an armistice and entered into negotiations for surrender for the reason that all the cartridges were exhausted. When the soldiers went to the arsenal for a fresh supply, they found nothing but empty boxes. Though the Government now had them at its mercy, it did not proceed to extreme measures, but came to a compromise. The soldiers and civilians who took part in the revolt were promised immunity, but officers of the grade of captain and above were to lose their commissions. The President, on his part, promised that the ministry should be reconstituted and reforms prosecuted. During the fighting at least 1,000 people were killed and 5,000 wounded.

Retirement of Celman.—Gen. Roca and Vice-President Pellegrini, who brought about a cessation of the civil disturbances, obtained a pledge from President Celman that he would re-

sign. When the authority of the Government was re-established in the capital and the military helplessness of the Opposition was made apparent he again changed his mind and determined to hold on to power, although he dared not show himself in public without a military guard. At a Cabinet meeting it was decided to postpone all payments from the treasury for thirty days, and the question of a forced paper currency was discussed. Dr. Pellegrini and Gen. Roca, who were present, insisted on the resignation of the President, but he proposed to escape from his difficulties by taking Roca and Eduardo Costa into the Cabinet as Ministers of the Interior and of Public Instruction. They refused, and Dr. Pellegrini declared that he would resign his office of Vice-President unless the President retired. Abandoned by the respectable portion of his own party, Celman offered the Cabinet posts to the chiefs of the Opposition, and these also insisted on his laying down his office as the prime condition. Failing in this quarter, the President endeavored to placate the menacing citizens by proposing to secure for the capital autonomous government and other tempting rights and immunities, but with sullen persistence they called on him to resign. The resignation of the Ministers of Foreign Affairs and of Finance, Saenz Peña and García, from the Cabinet left him more impotent and isolated, and when Gen. Levalle, the Minister of War, informed him that the army could not be relied on to defend him in the Presidency he finally offered his resignation on Aug. 5, after Señor Dardo Rocha had made a vain attempt to form a ministry. The faction of Celman and Carcano demanded as a condition of the acceptance of the resignation that Dr. Pellegrini, Celman's constitutional successor, should retire at the same time in order that one of their friends might succeed to the control of affairs; but the committee of the Chambers that had had charge of the matter threatened Celman with removal and impeachment if he withdrew his resignation. Under the fear of exposure and punishment, he therefore, on Aug. 6, presented his resignation in a formal message to the Congress, which accepted it by a vote of 61 to 22 in joint session.

The New Government.—President Pellegrini succeeded on Aug. 7 in obtaining a ministry, composed as follows: Minister of Finance, Fidel Vicente Lopez, the President of the Provincial Bank; Minister of Foreign Affairs, Eduardo Costa; Minister of Justice and Education, José M. Gutierrez Lastra; Minister of the Interior, Gen. Roca; Minister of War, Gen. Levalle. The first acts of the new Government were to raise the state of siege proclaimed by President Celman and restore the liberties of the press, that had been suspended. The emission of \$100,000,000 of hypothecatory notes that was sanctioned by the Chambers was canceled by the Government, which obtained authority to issue \$400,000,000 of treasury notes and to borrow \$35,000,000 on 44-per-cent. bonds for the purpose of withdrawing the unauthorized issue of National Bank notes; also to raise a foreign loan of \$20,000,000 at 5 per cent. in order to pay off obligations maturing in 1891. Notwithstanding the fresh expansion of the currency, confidence in the new administration of the Government and of

the banks brought down the premium on gold from 315 to less than 200. All the officers implicated in the revolution were restored to their former ranks, against the judgment of Gen. Levalle, who retired from the ministry on Aug. 21, together with the Minister of Finance, whose treatment of the men that were responsible for irregularities in the banks was considered too stringent.

ARIZONA, a Territory of the United States, organized Feb. 24, 1863; area, 113,020 square miles. The population, according to each decennial census, was 9,658 in 1870; 40,440 in 1880; and 59,691 in 1890. Capital, Phenix.

Government.—The following were the Territorial officers during the year: Governor, Lewis Wolfley, Republican, who resigned early in September, and was succeeded by Secretary Murphy as acting Governor until the confirmation of John M. Irwin, of Iowa, Republican, in October; Secretary, Nathan O. Murphy; Treasurer, John Y. T. Smith; Auditor, Thomas Hughes; Attorney-General, Clark Churchill; Superintendent of Public Instruction, George W. Cheyney; Commissioner of Immigration, John A. Black; Chief Justice of the Supreme Court, James H. Wright, succeeded by Henry C. Gooding; Associate Justices, Joseph H. Kibbey and Richard E. Sloan (who, in October, 1889, succeeded Justice William H. Barnes). A bill providing for the appointment of a fourth justice was signed by President Harrison on Oct. 1.

When the year began, the contest over the leading Territorial offices between the Democratic appointees of the late Gov. Zulick and the Republican appointees of Gov. Wolfley was still undecided. Treasurer Foster had yielded his office to the Republican claimant, John Y. T. Smith, pursuant to a decision of the court; but the Democratic Auditor, Attorney-General, Superintendent of Public Instruction, Commissioner of Immigration, Insane Asylum commissioners, prison commissioners, and directors of the normal school were still in possession of their offices, having refused the formal demands of the Republican claimants. The case of these officials differed from that of the Treasurer, inasmuch as the Territorial law provided that the Treasurer should be commissioned by the Governor alone and fixed no term for his office (the court decided that by implication his term was during the pleasure of the Governor); while in case of the other officials the law required the consent of the Legislative Council to their appointment and limited their terms to two years, the Governor having power to fill vacancies. It was claimed by the Democratic incumbents that the law of Congress limiting the legislative sessions to sixty days should be construed to mean sixty consecutive days from the opening of the session; that the session of 1889 had expired by this limitation before Gov. Wolfley was appointed; that the latter when he assumed office had no authority to make appointments, as the vacancies in the Territorial offices had already been filled by Gov. Zulick after the sixty-day limit had expired; that the appointees of the latter, therefore, had a right to their offices till the next Legislature should assemble; and that the action of the Republican members of the Legislature of 1889 in prolonging the session beyond the sixty-

day limit and confirming Gov. Wolfley's appointments was null and void. The Republican claim was that "sixty days" meant the sixty days on which the Legislature was actually in session, or legislative days; and that when the appointees of Gov. Wolfley were confirmed the sixty legislative days had not expired. Early in 1889 the opinion of United States Attorney-General Miller was sought upon the question, and by a decision rendered on March 16 and renewed on July 16 of that year he declared that the law meant sixty consecutive days, and that all legislative action thereafter taken was void. This opinion, sustaining the course of the Democratic officials, greatly hampered the Governor, for under the new Territorial code, adopted at the session of 1887, he had not even the power of removal for cause. The question could not be definitely decided until the courts had been appealed to, and the Governor was not disposed to recognize the "hold-overs" before that time. Early in January George W. Cheyney, the Republican appointee for Superintendent of Public Instruction, began a suit against Treasurer Smith which indirectly involved the determination of the dispute. He petitioned the Supreme Court for a mandamus directing the Treasurer to pay him the amount of his salary as Superintendent, the appropriation bill therefor having been passed by the last Legislature after the sixty consecutive days had elapsed. The opinion of the court was delivered in March, two of the three judges deciding that "sixty days" meant sixty legislative days, and that the appropriation bill was therefore passed legally. This decision, which was directly contrary to the opinion of Attorney-General Miller, disposed of the claim of the "hold-overs." The same court had already decided to recognize Hon. Clark Churchill as the *de facto* Attorney-General, and the Democratic Auditor and Superintendent of Public Instruction also soon relinquished their claims. But Immigration Commissioner Farish and the Democratic commissioners of the Territorial institutions still refused to yield, and late in April Attorney-General Churchill began suits against them for illegally usurping their offices. All these suits were decided against the defendants, and before the end of July Gov. Wolfley's appointees were everywhere established in control.

Finances.—The total bonded debt of the Territory is \$633,000, on which the annual interest is \$45,780, an average rate of about 7.25 per cent. There is also a floating debt bearing 10 per cent. interest, represented by unpaid warrants, which on Sept. 1 amounted to \$124,158.95, making the total Territorial debt \$757,158.95. The aggregate of the county debt is \$2,221,010. The following table shows the indebtedness of the cities:

CITY.	Bonded.	Floating.
Phenix	\$40,000	\$12,000 00
Prescott	71,000	15,000 00
Tucson	25,000	7,941 30
Tombstone	4,675	27,000 00
Total		205,616 30

To these figures the interest on county indebtedness for the present year should be added, also a school debt, which for the whole Territory

is estimated at less than \$40,000, making the total public indebtedness, Territorial and local, nearly \$3,500,000.

An act was passed by Congress and approved June 25 of this year which provides for funding all the floating indebtedness—Territorial, county, municipal, and school, and such of the bonded indebtedness as can be lawfully redeemed—at a rate of interest not to exceed 5 per cent. per annum, the bonds to run fifty years, but redeemable after twenty years. The Territory, under the act, assumes the obligations of counties and municipalities, and all securities that can be funded are made Territorial, the Territory being protected by equalized taxation. The law provides, not only for the funding of outstanding indebtedness, but also authorizes the placing of sufficient bonds to provide for all the legitimate expenses of government now due or to become due up to Jan. 1, 1891. After that date all expenses must be met by a tax levy sufficient to prevent indebtedness.

The total assessed valuation of the Territory for 1890 was \$28,050,234.73. Included in the assessment were 3,493,062 acres of land valued at \$3,938,564; improvements thereon valued at

territory. The Territorial University, at Tucson, Pima County, has not been opened. The building is unfinished.

Population.—The returns of the national census of 1890, compared with those for 1880, are shown in the following table (Cochise, Graham, and Gila Counties have been formed since 1880):

COUNTIES.	1880.	1890.	Increase.
Apache.....	5,288	4,206	* 1,077
Cochise.....	6,850	6,850	
Graham.....	5,605	5,605	
Gila.....	8,000	8,000	
Maricopa.....	5,659	10,707	5,048
Mohave.....	1,190	1,585	395
Pima.....	17,006	12,543	* 4,463
Pinal.....	8,044	4,186	1,149
Yavapai.....	5,013	5,203	3,550
Yuma.....	3,215	2,616	* 599
Total.....	40,440	50,691	19,251

* Decrease.

Penitentiary.—The Territorial Penitentiary at Yuma contained 122 convicts on July 1, 1889.

Mining.—The following table, compiled by the Territorial geologist, shows the mineral product of the Territory by counties during 1889:

COUNTIES.	Copper in pounds.	Gold.	Silver.	Total in gold and silver.
Mohave.....		\$125,004 73	\$260,534 31	\$385,539 04
Yavapai.....	2,100,000	461,705 47	162,761 57	624,467 04
Yuma.....		85,295 00	33,605 37	118,900 37
Maricopa.....		43,510 00	170 00	43,680 00
Pima.....		68,284 21	608,573 97	676,858 18
Pinal.....		625 57	186,745 26	1,76,370 83
Cochise.....	11,232,000	57,955 40	194,926 54	252,881 94
Graham.....	11,926,000	1,256 10	2,298 19	3,854 29
Gila.....	6,003,220	1,000 00	15,720 57	16,720 57
Other mines.....	498,780			
Total.....	31,600,000	\$889,936 48	\$1,465,185 78	\$2,305,072 26
By returns from smelting companies and express companies not included above.....		241,407 00	268,864 00	505,271 00
Copper.....				1,700,000 00
Total mineral product.....				\$4,510,343 26

\$2,139,049; city and town lots valued at \$1,863,893; improvements thereon valued at \$2,232,968; 641,016 head of cattle valued at \$5,321,800; 291,238 sheep valued at \$436,849; 40,956 horses valued at \$1,071,963; 1,695 mules valued at \$64,289; and railroad property, including 1,093 miles of track, valued at \$6,615,467. The tax rate for Territorial purposes in 1890 was 80½ cents on each \$100.

Education.—Each county in the Territory is divided into school districts, which are governed by three trustees, elected at a special election in which both men and women participate. The probate judge of each county is *ex officio* superintendent of schools for his county. The schools are supported by a direct Territorial tax of 3 cents on each \$100 value of taxable property, collected and paid into the Territorial treasury, and then apportioned to the counties on the basis of school population. In addition a tax is levied on each county at a rate of not less than 50 cents nor more than 80 cents on each \$100 valuation for the support of the schools in that county. The Territorial normal school at Tempe, Maricopa County, was established in 1886. Seventy-nine students have been enrolled, of whom eleven have been graduated and are now teaching in the Ter-

Indians.—There has been no regular outbreak since the surrender of Geronimo in 1888, but several murders have been committed by Indians, and a general feeling of distrust prevails in portions of the Territory adjacent to the San Carlos reservation, upon which the most objectionable Indians are placed. In November, 1889, while Sheriff Jefferson Reynolds and his deputy, of Pinal County, were taking eight convicted Apache murderers to their punishment, the officers were overpowered and killed, and the Indians escaped. The outlaws have all been run down and killed or captured except one. Several murders have been committed by Indians since the escape of these prisoners.

Mormons.—The Governor says in his last annual report: "This Territory borders Utah on the south, and is very accessible to immigration from that Territory, and at this time the county government and the public schools of Apache County are largely subservient to Mormon influences, and great dissatisfaction is expressed by the people. Yavapai County also borders on Utah, and the northeastern part of the county has several Mormon settlements. Graham County lies directly south of Apache County, and has quite a large Mormon population. Cochise

County forms the southern boundary of Graham County, and has a Mormon colony. Maricopa County is immediately south of Yavapai, and has a larger Mormon population than any county except Apache. Gila County also lies south of Yavapai, and has a number of these people. Pinal and Pima Counties have comparatively few. The number of Mormons in the Territory is placed at 12,000."

Constitutional Convention.—By an act passed at the legislative session of 1889 the Governor was empowered to call a special election on Nov. 5 of that year for the choice of delegates to a constitutional convention which should meet in the January following. Soon after assuming office, Gov. Wolfley sought an opinion on the legal right of a Territorial Legislature to pass such an act, and in June received an affirmative reply from United States Attorney-General Miller. In March the latter had given an opinion that acts passed by the Legislature after sixty consecutive days from its assembling were void. The Governor then brought to his attention the fact that the Convention act and many other important laws of the Territory had been passed after the sixty-day limit, and that his opinion would bring the entire legal system into confusion, and asked for further advice; but in July the Attorney-General replied by reaffirming his former opinion. Acting under this advice, the Governor refused to issue a call for the election of delegates on the ground that the Convention act was void. This course was not generally approved by the people, and in Maricopa County the committees of both the Republican and Democratic parties united in urging that the election be held. But the effort to secure united action in all the counties failed, and no election or convention was held.

Political.—A Territorial Convention of the Republican party met at Phenix on Aug. 26. It nominated for delegate to Congress, George W. Cheyney, the Territorial Superintendent of Public Instruction, and for Members-at-Large of the Legislative Council, J. M. W. Moore in the northern district and W. F. Nichols in the southern district. The following is a portion of the platform adopted:

The growth of the Territory of Arizona, the wealth and resources, as well as the necessities of our citizens, require the early recognition of our Territory as a State.

The history of the Mormon Church in the United States means an ecclesiastical control that has ever been aggressive, exacting, and tyrannical, and whose boast has ever been that the Mormon Church and people do not and will not assimilate with the people of our country; and therefore we do hereby demand of Congress that it pass the bill now pending before it known as an Act for the Purification of Elections in Arizona.

We direct the attention of the tax payers and the people at large to the deficit of \$5,700 in the accounts of the Democratic commissioners of the Territorial prison; to the large unadjusted balance due to the Territory from the late Secretary Bayard in the administration of his office; and to the appalling deficiency in the accounts of Frederick W. Smith, late receiver in the United States Land Office at Tucson, and to the serious injuries and embarrassments resulting therefrom to the settlers upon our land, all occurring under Democratic administration.

The Democratic Territorial Convention met at Phenix on Sept. 15, and renominated Delegate

Marcus A. Smith for Congress. For Members-at-Large of the Legislative Council its nominees were Harris Baldwin in the northern district and Peter R. Brady in the southern district. The platform demands admission of the Territory to the Union, denounces the Federal Election bill pending in Congress, favors free coinage of silver and reduction of the tariff, and contains the following declarations:

Of our own Legislature we demand the abolition of all useless offices, particularly the office of Attorney-General, Commissioner of Immigration, Superintendent of Schools, and the Territorial Geologist, and a reduction of salaries and emoluments of the rest wherever practicable.

And we demand a consolidation of county offices. We oppose any legislation to disfranchise any citizen except it be on conviction of crime.

At the November election the Democratic ticket was elected by a majority of a few hundred votes.

ARKANSAS, a Southern State, admitted to the Union June 15, 1836; area, 52,198 square miles; population, according to each decennial census since admission, 97,574 in 1840; 209,897 in 1850; 435,450 in 1860; 484,471 in 1870; 802,525 in 1880; 1,125,385 in 1890. Capital, Little Rock.

Government.—The following were the State officers during the year: Governor, James P. Eagle, Democrat; Secretary of State, B. B. Chism; Auditor, W. S. Dunlop; Treasurer, William E. Woodruff; Attorney-General, William E. Atkinson; Superintendent of Public Instruction, Wood E. Thompson; State Land Commissioner, Paul M. Cobbs, who died on Feb. 12, and was succeeded by C. B. Myers; Chief Justice of the Supreme Court, Sterling R. Cockrill; Associate Justices, Burrill B. Battle, M. H. Sandels,* Simon P. Hughes, and William E. Hemingway.

Valuation.—The total assessed valuation of the State for 1888 was \$156,954,602; for 1889 (three counties estimated), it was \$172,241,726, an increase of \$15,287,124. Only two counties, Franklin and Union, have an assessment less than that of 1888, which indicates that nearly all sections of the State have shared in the prevailing prosperity. The assessment for 1890 shows a corresponding increase. The tax rate for State purposes in 1890 was 5 mills.

Education.—For the year ending June 30, 1889, the school population was 404,873, against 388,129 for the year preceding. The number of pupils enrolled in the public schools was 216,152, against 202,754 in 1888. The teachers employed numbered 5,945.

Charities.—On Nov. 30, 1889, the number of patients at the State Lunatic Asylum was 410, of whom 201 were males and 209 females. During the year preceding, 95 new patients were admitted, and 96 inmates died or were discharged. In February of this year the asylum suffered a loss of over \$25,000 from a fire that destroyed the boiler-room, kitchen, and laundry.

Penitentiary.—The State convicts are now worked by the lessee in ten localities in the State, some at the Penitentiary buildings, others on farms, turnpikes, railroads, or at wood camps and brick yards. There has been a marked increase in their number in recent years, exceeding the ratio of the growth of the population, as

* Died on November 12.

shown by the following statement of convicts on Jan. 1 of each year: In 1883, 565; in 1884, 612; in 1885, 581; in 1886, 540; in 1887, 645; in 1888, 698; in 1889, 816.

Population.—In the following table the official census returns for this year are shown, in comparison with the figures for 1880:

COUNTIES.	1880.	1890.	Increase.
Arkansas.....	8,088	11,424	3,336
Ashley.....	10,156	13,273	3,117
Baxter.....	6,004	8,541	2,537
Benton.....	20,328	27,697	7,369
Boone.....	12,116	15,797	3,681
Bradley.....	6,285	7,951	1,666
Calhoun.....	5,671	7,390	1,719
Carroll.....	18,337	17,367	9,990
Chicot.....	10,117	11,356	1,239
Clark.....	15,771	20,951	5,180
Clay.....	7,213	12,082	4,819
Cleburne.....	.....	7,885	7,885
Cleveland.....	8,870	11,848	2,978
Columbia.....	14,090	19,872	5,782
Conway.....	12,755	19,149	6,394
Craighead.....	7,037	11,951	4,914
Crawford.....	14,740	21,723	6,983
Crittenden.....	9,415	13,863	4,438
Cross.....	5,050	7,667	2,617
Dallas.....	6,505	9,203	2,708
Desha.....	8,973	10,259	1,286
Drew.....	12,331	17,319	5,088
Faulkner.....	12,756	18,276	5,520
Franklin.....	14,951	19,554	4,603
Fulton.....	6,720	10,965	4,245
Garland.....	9,023	15,900	6,877
Grant.....	6,155	7,752	1,597
Greene.....	7,480	12,990	5,510
Hempstead.....	19,015	22,766	3,751
Hot Spring.....	7,775	11,557	3,782
Howard.....	9,917	13,613	3,696
Independence.....	18,086	21,955	3,869
Izard.....	10,537	13,023	2,486
Jackson.....	10,877	15,150	4,273
Jefferson.....	22,386	40,828	18,442
Johnson.....	11,565	16,719	5,154
Lafayette.....	5,730	7,084	1,354
Lawrence.....	8,752	12,990	4,238
Lee.....	13,258	18,869	5,611
Lincoln.....	9,255	10,195	940
Little River.....	6,404	8,885	2,481
Logan.....	14,885	20,743	5,858
Lonoke.....	12,146	19,157	7,011
Madison.....	11,455	17,369	5,914
Marion.....	7,907	10,426	2,519
Miller.....	9,919	14,639	4,720
Mississippi.....	7,322	11,572	4,250
Monroe.....	9,574	15,905	6,331
Montgomery.....	7,429	12,897	5,468
Nevada.....	12,950	14,884	1,934
Newton.....	6,120	9,915	3,795
Onacha.....	11,758	17,002	5,244
Perry.....	8,872	15,517	6,645
Phillips.....	21,262	25,263	4,001
Pike.....	6,945	8,533	1,588
Poinsett.....	2,192	4,252	2,060
Polk.....	5,857	9,282	3,425
Pope.....	14,322	19,568	5,246
Prairie.....	8,855	12,571	3,716
Pulaski.....	22,616	40,828	18,212
Randolph.....	11,724	14,437	2,713
Saline.....	8,953	11,301	2,348
Scott.....	9,174	12,607	3,433
Searcy.....	7,278	9,605	2,327
Sebastian.....	19,560	33,104	13,544
Sevier.....	6,192	10,061	3,869
Sharp.....	9,047	10,352	1,305
St. Francis.....	8,859	13,519	4,660
Stone.....	5,089	7,017	1,928
Union.....	13,419	14,946	1,527
Van Buren.....	9,565	8,506	-1,059
Washington.....	23,844	32,021	8,177
White.....	17,794	22,925	5,131
Woodruff.....	6,646	13,972	7,326
Yell.....	13,532	15,022	1,490
Total.....	502,525	1,125,835	623,310

* The name of Dorsey County was changed to Cleveland by act approved March 5, 1885.

† Decrease.

The population of Little Rock in 1890 was 22,496, an increase of 9,358 in ten years; and of Hot Springs 7,115, an increase of 561.

County Debts.—According to the census of this year, 16 counties in the State have no debt. The debt of Calhoun County is less than \$500; of Jackson County between \$500 and \$1,000; of Benton, Bradley, Cleburne, Dallas, Franklin, Garland, Lawrence, Little River, Poinsett, Prairie, Saline, Sevier, and Sharp Counties between \$1,000 and \$5,000; of Conway, Desha, Greene, Lafayette, Lonoke, Montgomery, and Pike Counties between \$5,000 and \$10,000; of Ashley, Boone, Columbia, Craighead, Cross, Drew, Faulkner, Fulton, Howard, Logan, Madison, Marion, Newton, Perry, Polk, Randolph, Stone, Union, and Yell Counties between \$10,000 and \$20,000; of Carroll, Cleveland, Nevada, Sebastian, and Searcy Counties between \$20,000 and \$35,000; of Mississippi, St. Francis, and Scott Counties between \$35,000 and \$50,000; of Clark, Lee, and Monroe Counties between \$50,000 and \$75,000; of Jefferson and Washington Counties between \$75,000 and \$100,000; of Chicot and Phillips Counties between \$100,000 and \$250,000; and of Pulaski County between \$250,000 and \$500,000. The total county indebtedness is \$1,592,582, a decrease of \$1,543,167 in ten years. Of this total \$1,030,631 is a bonded debt and \$561,951 a floating debt.

The Clayton Assassination.—Late in April a special investigating committee of the national House of Representatives visited Little Rock for the purpose of taking testimony relative to the election of 1888 in the Second Congressional District, and to the murder of the Hon. John M. Clayton in connection therewith. No tangible clue to the murderer had been discovered, and the testimony before the committee developed no new facts in that regard. The sessions occupied twelve days, and nearly twelve hundred witnesses were examined. A report was made to Congress in August, recommending the unseating of Congressman Breckinridge, on the ground of fraud and intimidation in the election. This report was adopted, and the seat was declared vacant.

Political.—On June 10 the Union Labor party met in State convention at Little Rock and nominated the following ticket, to be voted for at the September election: For Governor, Napoleon B. Fizer; Secretary of State, J. M. Pittman; Auditor, O. S. Jones; Treasurer, T. J. Andrews; Attorney-General, T. P. Chambers; Commissioner of Agriculture, G. B. Farmer; Judge of the Supreme Court, W. A. Coody; Superintendent of Public Instruction, Thomas M. C. Birmingham; State Land Commissioner, C. M. B. Cox. A platform was adopted containing the following:

That national banks should be abolished. All money should be issued by the Government, be of a full legal tender and in sufficient volume to transact the business of the country on a cash basis, and the volume should be kept as uniform as possible, regulating it on a *per capita* basis.

We favor the free and unlimited coinage of silver, and Government loans on real estate to those engaged in farming.

The means of communication and transportation should be controlled or owned by the Government and operated at cost.

We favor the passage of laws prohibiting the alien ownership of land, and that Congress should take

early action to devise some plan to obtain all lands now owned by aliens and foreign syndicates; and that all lands now held by railroads and other corporations, in excess of such as is actually used and needed by them, be reclaimed by the Government and held for actual settlers only.

Realizing that these reforms can only be reached through free and fair elections, and that the purity of the ballot-box is a sacred trust, always committed to the keeping of the party in power, and that that trust has been shamefully and openly violated by partisans of the Democratic party in this State, and that no reasonable attempt has been made to convict said partisans for their crimes, but, on the other hand, the criminals have not only enjoyed immunity from their crimes but are the recipients of their own violations of the law; we, therefore, declare that the paramount issue—the one on which the proper adjustment of all other evils depends—is a “free ballot and a fair count.”

The Democratic State Convention met at Little Rock on June 17, and renominated Governor Eagle, Secretary of State Chism, Auditor Dunlop, Attorney-General Atkinson, Commissioner of Agriculture Locke, Associate-Justice Sandels, and State Land Commissioner Myers. For State Treasurer the convention nominated Robert B. Morrow; and for Superintendent of Public Instruction, Josiah H. Shinn. A platform was adopted, containing, among others, the following declarations:

We point with pride to the series of splendid achievements of the Democratic party in Arkansas since 1874, the restoration of the credit of the State from bankruptcy to the highest financial standing, the enormous decrease of the State debt, the decrease in the expenditures of the State Government and the large consequent decrease of taxation, the abolition of a partisan militia and fraudulent registration boards.

Believing that home rule and local self-government are cardinal principles in a republican government, we therefore indorse and approve the action of the Legislature of Arkansas in enacting laws relegating to the people the right of settling the liquor question for themselves.

We announce our firm and unalterable adherence to the doctrine of free and fair elections; and to this end we favor the enactment by the next General Assembly of an election law securing to the voter a secret ballot.

Resolutions were adopted denouncing the unseating of Representative W. H. Cate by the national House of Representatives, and recommending the next General Assembly of the State to pass suitable laws requiring railroads to furnish separate coaches for white and colored passengers.

The State convention of the Republican party was held at Little Rock on July 9. Following the precedent established in the canvass of 1888, it adopted the ticket nominated by the Union Labor party. The only declaration of the platform relating to State issues is as follows:

With the Republicans of Arkansas the questions of tariff and silver, and all other questions, are held subordinate to that of a free ballot and a fair count. With the solution of this question the solution of all other questions will be readily found in conformity with the will of a free people. In State affairs the object to be attained is a due enforcement of the laws and a free exercise of the elective franchise, culminating in a free ballot and a fair and honest count. To this end we will co-operate with all good citizens, regardless of past political affiliations, who agree with us on these

fundamental principles of freedom of opinion, freedom of speech, and purity of elections. With these influences put in operation, we may confidently hope for the overthrow of the present misrule of the Bourbon Democracy.

The canvass resulted in the election on Sept. 1 of the entire Democratic ticket. For Governor, Eagle received 106,267 votes, and Fizer 85,181, a plurality of 21,086 for the Democratic candidate. In 1888 the Democratic plurality was 14,981. The Legislature of 1891, for which members were chosen at the same time, will be strongly Democratic in both branches.

At the November election the following members of Congress were chosen: First District, W. H. Cate; Second District, Clifton R. Breckinridge; Third District, T. C. McRae; Fourth District, William L. Terry; Fifth District, S. W. Peel—all Democrats.

ASSOCIATIONS FOR THE ADVANCEMENT OF SCIENCE. American.—The thirty-ninth meeting of the American Association was held in Indianapolis, Aug. 19–26, 1890. The officers of the meeting were: President, George L. Goodale, of Cambridge, Mass.; Vice-Presidents of sections: A, Seth C. Chandler, of Cambridge, Mass.; B, Cleveland Abbe, of Washington, D. C.; C, Robert B. Warder, of Washington, D. C.; D, James E. Denton, of Hoboken, N. J.; E, John C. Branner, of Little Rock, Ark.;



GEORGE L. GOODALE.

F, Charles S. Minot, of Boston, Mass.; H, Frank Baker, of Washington, D. C.; I, J. Richards Dodge, of Washington, D. C. Permanent Secretary, Frederick W. Putnam, of Cambridge (office, Salem), Mass.; General Secretary, H. Carrington Bolton, of New York; Secretary of the Council, Harvey W. Wiley, of Washington, D. C. Secretaries of the sections: A, Wooster W. Beman, of Ann Arbor, Mich.; B, Elroy M. Avery of Cleveland, Ohio; C, William A. Noyes, of Terre Haute, Ind.; D, Thomas Gray, of Terre Haute, Ind.; E, Samuel Calvin, of Iowa City, Iowa; F, John M. Coulter, of Crawfordville, Ind.; H, Joseph Jastrow, of Madison, Wis.; I, Bernhard E. Fernow, of Washington, D. C. Treasurer, William Lilly, of Mauch Chunk, Pa.

Opening Proceedings.—A meeting of the council was held on Aug. 19, when the names of

116 persons were passed for election and the programme of the week arranged, including the consideration of the papers presented for approval. The actual exercises began on the morning of Aug. 20, when, in the Hall of Representatives, President Mendenhall called the organization to order. After a prayer by Rev. Carmi A. Van Anda, the presiding officer introduced President Goodale, who then took the chair, after which addresses of welcome by George W. Sloan (chairman of the local committee), Lieut.-Gov. Ira J. Chase, and Mayor Thomas L. Sullivan were made and appropriately responded to. The announcements and reports followed. Of these, that by the permanent secretary referred to the rapid growth of the association, which, when it met in Indianapolis, in 1871, had 608 members, of whom 196 were present during the meetings. The association now had 2,099 members, and 219 members in attendance. The financial statement showed that after the meeting at Toronto last year there was a deficit of 33 cents. Since then there had been received \$7,014.42, of which \$400 was a gift from the local committee at Toronto and \$500 a gift from a lady member of that city. These two gifts were placed in the Research fund, which now amounts to more than \$6,000, the interest only being used for defraying expenses in intelligent research. The new account showed a cash balance for the year of \$977.42, after deduction of expenses.

Address of the Retiring President.—Prof. Mendenhall chose as the subject of his address "The Relations of Science and Scientific Men to the General Public." After some introductory remarks, he referred to the work of the association and told how, in fulfillment of its mission as defined by the constitution, "the organization had been singularly fortunate in giving a stronger and more general impulse and a more systematic direction to scientific research in this country, and its meetings have been the means of disseminating proper methods of investigation and study throughout the land. In procuring for the labors of scientific men increased facilities and a wider usefulness it had been less successful." Then, passing directly to his theme and in criticism of the relation between the man of science and the public, he said: "The scientific *dilettante*, or worse, the charlatan, is often much nearer the public than the genuine man of science, and the inability to discriminate sometimes results in disaster, in which both science and the public suffer." But too often this is the fault of the scientist, for "many scientific men of excellent reputation are to-day guilty of the crime of unnecessary and deliberately planned mystifications; in fact, almost by common consent, this fault is overlooked in men of distinguished ability, if indeed it does not add a luster to the brilliancy of their attainments." Discussing this thought at length, he closed that portion of his address with: "Even the great masters in science, then, can well afford to do what is in their power to popularize their work and that of their colleagues, so that through closer relations with a more appreciative public their opportunities may be enlarged and their numbers increased." He then criticised the man of science for assuming superior wisdom on subjects outside his own specialty thus: "A distinguished

botanist is consulted and advises concerning the location of the natural-gas field; a mathematician advises a company in which he is a stockholder in regard to the best locality for boring for oil; and a celebrated biologist examines and makes public a report upon a much talked-of invention in which the principles of physics and engineering are alone involved." Prof. Mendenhall found another element of weakness in the scientific man, because "he is often less of a utilitarian than he should be," and deplored the tendency among scientists "to despise the useful and the practical in science." As illustrating the injustice of such an opinion among the best men, Michael Faraday and Joseph Henry were mentioned as scientists who were intensely practical and gave the world valuable inventions. The common belief that scientific men were narrow and incompetent to take an interest in public affairs was considered. He said: "This was not the case in earlier times, as the names of Franklin, Jefferson, and the Adamss prove. In France scientific men have distinguished themselves in public affairs, the present President having been an engineer." His closing remarks were on the obligations of the general public to the man of science, and concluded with: "Prove this by comparing the world with science with the world without science. Take as an illustration that which less than two hundred years ago was but a spark, a faint spark exhibited on rare occasions by the scientific men of that time. With this spark, thanks to science, the whole world is now aflame. Time and space are practically annihilated; night is turned into day; social life is almost revolutionized; and scores of things which only a few years ago would have been pronounced impossible are being accomplished daily. Many millions of dollars of capital and many thousands of men are engaged in the development of this agent so purely a creation of science that the Supreme Court of the land has already decided that it has no material existence. Surely science, which has brought us all these blessings, with thousands besides, is worthy of every care and consideration at the hands of a generous and appreciative public."

Proceedings of the Sections.—The association is divided into eight sections, each of which meets separately and is presided over by an officer having the rank of vice-president of the association. Each section perfects its own organization by electing a fellow to represent it in the council, a sectional committee of three fellows, a fellow or member to the nominating committee, and a committee of three members or fellows to nominate officers of the section for the next meeting. As soon as this organization is effected the secretary of the section reports to the general secretary, who then provides him with a list of papers that, having been considered suitable by the council, may be read before the section. The proceedings on the first day are usually confined to organization and the delivery of the vice-presidential address.

Sections.—A. *Mathematics and Astronomy.*—This section was presided over by Seth. C. Chandler, of Harvard University, whose address was on "Variable Stars." He described the discovery of how the light variations follow a moderately regular course and the star gradually declines

from its greatest brilliancy until it becomes invisible to the eye for several months, then reappears, and gradually recovers its original brilliancy; and then from this first variable star he gave the history of other discoveries of similar bodies. Concerning the numerical distribution of the variables with reference to the time occupied in completing a single cycle of their changes, he said that it ranges from the short period of less than eight hours to about two years. Besides the distinctly periodical stars, Prof. Chandler told about a considerable number in which there is no discernible law or regularity, and also an intermediate group in which this appears in a very weak degree. One or two there are which remain steady during long intervals of time, then begin, without warning, a series of astonishing and apparently lawless changes, and later become again quiescent. The following papers were read before the section: "Double Star Observations," by George W. Hough; "Application of the Method of the Logical Spectrum to Boole's Problem," by Alexander Macfarlane; "Some Personal Experiences on the Expedition to Cayenne, French Guiana, to observe the Eclipse of Dec. 22, 1889," by Charles H. Rockwell; "The Problem, to circumscribe about a Conic Triangle which shall be inscribed in a Triangle which is itself inscribed in the Conic, and a Certain Question concerning two Binary Cubes," by Eliakim H. Moore; "A Method for testing Primes," by James D. Warner; and "A Theorem of Plane Cubics," by Frank H. Loud. During the session at Terre Haute, on Aug. 22, Section A met with Section B.

B. *Physics*.—Cleveland Abbe, of the United States Signal Service, presided over this section. His address was a plea that the principles of molecular physics and chemistry might be applied to the study of the earth as a unit as well as the principles of mathematics and astronomy. He included the subject of terrestrial physics under the term geo-physics, dividing this again into geognosy, the study of the entire phenomena of the earth's crust; vulcanology, or the study of the interior of the earth as related to heat and contraction; seismology, or the study of earthquakes and the allied phenomena of faulting and mountain forming; gravitation phenomena and its variations as related to latitude and altitude; the relations of the land and water areas; and, lastly, the total of knowledge comprised under meteorology. Prof. Abbe closed his address with an urgent appeal for a laboratory in which to consider these topics. "America has no institution for the larger and profounder secrets of the globe. We should 'go into the land and possess it' in the largest sense, so that year by year we may come nearer to eternal truth." The following-named papers were presented:

"Magnetic and Gravity Observations on the West Coast of Africa and at Some Islands in the North and South Atlantic," by E. D. Preston; "On the Use of the Magnetograph as a Seismoscope," by Thomas C. Mendenhall; "Exhibition of Seismograph," by Thomas Gray; "The Effects of the Atmosphere and Oceans on the Secular Cooling of the Earth," by Robert S. Woodward; "Description of the Equal-Temperature Room in the Observatory and Physical Laboratory of Colby University" and "Is Thermometry an Exact Science?", by William A. Rogers; "Determination of the Tension of the Vapor of Mercury

at Ordinary Temperatures," by Edward W. Morley; "New Metric Standards," by Thomas C. Mendenhall; "Exhibition of a Combined Metre with Subdivisions to 2 mm. and a Yard subdivided to Tenths of Inches, both being Standards at 62°," by William A. Rogers; "Exhibition of Verns's Photographs in Natural Colors," by Orry T. Sherman; "Report on the Velocity of Light in a Magnetic Field," by Edward W. Morley and Henry T. Eddy; "Radiation at a Red Heat (A Preliminary Note on the Radiation from Zinc Oxide)," by Edward L. Nichols and Benjamin W. Snow; "Exhibition of Plans and Sketch of the New Physical Laboratory, 'Wilson Hall,' of Brown University, Providence, R. I.," by Eli W. Blake. "Aberration Methods of Determining the Altitudes and Motions of the Clouds," by Cleveland Abbe; "A New Self-regulating Photometer," "Recent Studies in the Ultra-violet Spectrum," "The Great Lick Spectroscope," and "Recent Photographs of the Moon by Direct Enlargement," by John A. Brush; "Further Study of the Solar Corona" and "Terrestrial Magnetism," by Frank H. Bigelow; "Method of Measuring the Electrical Resistance of Liquids," by Francis E. Nipher; "Ampere-metre for Feeble Alternating Currents: The Farado-Metre," by Wellington Adams; "Note on Certain Peculiarities in the Behavior of a Galvanometer when used with a Thermopile," by Ernest Merritt; "History of Wilson Hall," by Eli W. Blake; "Prediction of Cold Waves from Signal Service Weather Maps," by Thomas Russell; "Surface Integrals in Meteorology," by Francis E. Nipher; "The Marine Nephoscope," by Cleveland Abbe; "On Certain Electric Phenomena in Geissler Tubes," by H. S. Rodgers and Thomas French, Jr.; "Magnetic and Electric Phenomena viewed as a Manifestation of Strain," by W. F. Durand; "Electrical Oscillations in Air," by John Trowbridge and Wallace C. Sabin; "On Maximum Temperatures," by Amos E. Dolbear; "The Specific Inductive Capacity of Electrolytes," by Edward B. Ross; "Discussion of the Formulas indicating the Work of an Electric Motor," by George W. Hough; "Experimental Determination of the Time acquired for Water to pass from 42° to 72° in a Constant Air Temperature," by William A. Rogers; "Plan for a Resistance Box," by Albert L. Arey; "On the Specific Heat of Brine near 0° Fahr.," by James E. Denton; "Experimental Determination of the Rate of Change in Underground Temperatures at a Depth of Nine Feet by Means of a Flow of Water at a Constant Level," by William A. Rogers; "Observations taken in Four Balloon Ascents," by W. H. Hammon; "On a Form of Pneumatic Commutator and its Use in the Automatic Operation of Physical Apparatus," by David P. Todd; "On the Phosphoric Lamp," by F. W. Very; "On the Advisability of applying the C. G. S. System of Modern Electricians to the Principles of Elementary Mechanics," by P. H. van der Weyde; "Flow and Friction of Fluids in Open Channels," by D. T. Smith; "Evaporation as a Distributing Agent in a Determination of the Temperature of Water," by William A. Rogers; "Some Results of Observations made during the Recent United States Scientific Expedition to the West Coast of Africa," by Cleveland Abbe; "Earthquake and Volcanic Action in Japan" and "A New Transmission Dynamometer," by Thomas Gray; "Actinic Action of Electric Discharge," by Thomas French, Jr.; "Is Chemical Action influenced by Magnetism," by Morris Loeb; "Index to the Literature of Thermo-dynamics," by Alfred Tuckerman; and "Description of a Series of Tests for the Detection and Determination of Subnormal Color Perception; designed for Use in Railroad Service," by Charles A. Oliver.

C. *Chemistry*.—This section was presided over by Robert B. Warder, of Howard University, who presented an address on "Recent Theories of Geometrical Isomerism," of which the chief aim was "to present a theory which might serve

to explain the peculiar fact that substances of the same chemical constitution may present quite different physical properties. The explanation may be found in variations in the attachments which the bonds of one atom form, under varying conditions, with the bonds of another atom. Thus, if bonds *a*, *b*, and *c* of an atom unite with bonds *d*, *e*, and *f* of another, a molecule of certain properties is formed. But should bond *a* unite with bond *f*, a molecule of quite different properties might be the result. Thus may perhaps be explained, for example, the different forms, with different properties, under which pure carbon is met. Gradually the truth is being brought to light. Part of the theory is already quite established, and the hope begins that in time the mystery may be entirely removed." The following-named papers were read:

"Preliminary Study of the Ptomaines from the Culture Liquids of the Hog Cholera Germ," by Study of the Composition of Oeage Orange Leaves," and "A New Ptomaine," by Emil A. Von Schweinitz; "The Occurrence of the Pentaglucooses," "The Reduction of Fehling's Solution by Arabinose," and "The Quantitative Estimation of the Pentaglucooses in the Presence of Other Carbohydrates," by Winthrop E. Stone; "The Action of Alcohol upon Aldehydes," by Spencer B. Newbury; "Some Thoughts on Electromotive Force," by Clarence L. Speyers; "Mucilaginous, Nitrogenous, and Dysmorphic Carbohydrate Bodies in the Sorghum Plant," by Harvey W. Wiley and Walter Maxwell; "On the Heats of Combustion of Certain Organic Bodies," by Wilbur O. Atwater and H. B. Gibson; "Analysis of Lycopodium Fusillume," and "Notes on Certain Reactions for Tyrotoxicum," by Henry A. Huston; "Determination of the Volumetric Composition of Water" and "Ratio of the Density of Oxygen and Hydrogen," by Edward W. Morley; "The Atomic Weight of Oxygen" and "The Unit for the Atomic Weights," by William A. Noyes; "The New Chemical Laboratory of Cornell University," by Spencer B. Newbury; "Knorr's Extraction Apparatus," "Pine Tree Honey Dew and Pine Tree Honey," "Pine Tree Sugar (*Pinus Lambertiana*)," "Some New Forms of Apparatus for drying Substances in an Atmosphere of Hydrogen," and "Apparatus for recovering highly Volatile Solvents," by Harvey W. Wiley; "Apparatus for evaporating in Vacuo" and "The Estimation of Theine in Teas," by Guilford L. Spencer; "Apparatus for determining Solubilities," by A. E. Knorr; "On Chemism—an Inquiry into the Conditions which underlie Chemical Reactions," by Amos E. Dolbear; "The Proper Standard of the Atomic Weights," by Frank P. Venable; "Improved Forms of Gas Generators," "A Constant and easily Regulated Chlorine Generator," "Derivatives of Dinitro α Naphthol," "Soluble Compound of Hydrastine with Mono-calcium-phosphate," "Application of the Potassium Chlorate Method for the Determination of Sulphur to the Analysis of Horn," "On a New Method of preparing Benzene-Sulfonic Bromide and on Some New Salts of Benzene-Sulfonic Acid," by Thomas H. Norton; "An Inquiry into the Conditions which underlie Chemical Reactions," by Amos E. Dolbear; "On the Alkaloidal Principles present in the Seed Berries of *Calycanthus Glaucus*," by Harvey W. Wiley and H. E. L. Horton; "Experiments on the Chemical Constitution of the Silicates," by Frank W. Clarke; "On a Constant Ratio between a Reducing Sugar and the Amount of Copper set free, determined Gravimetrically," by J. L. Fuelling; "On the Preservation of Sugar Solutions and Influence of Basic and Normal Lead Acetate on Analysis thereof," by Hubert Edson; "Study of Fehling's Solution in Estimation of Sugars," by H. E. L. Horton; "Action of Ammonium Citrate on High-Grade Aluminium Phosphate," by Henry A. Huston; "On the Minerals constitut-

ing a Meteorite found in Kiowa County, Kansas," by E. H. S. Bailey; "Constitution of Benzoquinone," by J. U. Nef; "The Action of Sodium on Acetone and the Constitution of Aliphatic Ketones," by Paul C. Freer; "On the Method of Estimation of the Fatty Bodies in Vegetable Organism and the Behavior of the Glycerides and Lecithines during Germination" and "On the Nitrogenous Elements present in Cattle Food prepared from the Cotton-Seed Meal," by Walter Maxwell.

Besides these papers, there was presented before the chemical section a report on the pronunciation and spelling of chemical terms, which was referred back to the committee, who are to condense the results of the year's work, agree upon a standard, and report at the next year's meeting. The report of the committee on information concerning the formation of a National Chemical Society provoked considerable discussion, and the committee was instructed to join with other bodies for a conference and to report next year. The committee on teaching the metric system presented a circular, by way of a report, which they were issuing to physicians, pharmacists, and teachers of materia medica and therapeutics in medical and pharmaceutical colleges, urging them to follow the new "United States Pharmacopœia," and use exclusively the metric system after 1890.

D. *Mechanical Science and Engineering.*—James E. Denton, of Stevens Institute of Technology, presided over this section, and delivered an address on "Mechanical Tests of Lubricants," in which he told how experiments to determine the coefficient of friction between lubricated rubbing surfaces had been prosecuted for two hundred years, resulting in the existence of many forms of satisfactory apparatus for such measurement known as oil-testing machines. He explained how such machines are used and the experiments performed with them for the Standard Oil Company. His address was illustrated by lantern views of various new devices for testing lubricants under the actual conditions of service, and also by samples of bearings that had been in service under various conditions representing unsatisfactory lubrication. Explanations were also offered of the paradoxical fact that overheating is often relieved by supplying sand or emery to bearings. For example, a hot journal on a car is cooled off by ramming some mud or weeds into the box. The sand grains make grooves around the wearing parts, and as a result the oil is uniformly distributed and the hot box cools down to the limit of safety. The main thing in lubricating is uniformity of feed. What ever insures this secures smooth running and enhances the force of the machine. The following-named papers were read before the section:

"A New Transmission Dynamometer," "Preliminary Experiments in the Resistance of Metals to Cutting," "Machine for Testing Torsional Stiffness," "Diagramming Apparatus for Use in testing Materials," and "Dynamometer for Measuring the Resistance of Cutting Tools," by Thomas Gray; "Construction of a Precision Screw Eight Feet in Length" and "A Simple Method of subdividing Index Wheels into 1,000 Parts," by William A. Rogers; "A Standard Formula for Efficiency of Steam Engines," by William Kent; "New Principles of Mechanism shown by Experiment with Spiral Gears," by Oscar J. Beale; "Efficiency of Locomotive Link Motion compared to Automatic Cut-Off Valve Gear of Modern High-Speed

Engines," by Henry P. Jones; "Effect of Internal Strains in Hardened Steel," by George M. Bond; "The Principal Element of Waste in Machine Shops," by Oberlin Smith; "The Money Value of Solid Emery Wheel," by T. D. Paret; "Use of the Locomotive as an Apparatus for testing Cylinder Oils" and "Results of Test of Performance of 75-ton ammonia Compression Machine," by James E. Denton; "The Structure of Woods as viewed in their Cross Sections," by William J. Beal; "Note on Graphical Construction of Crank Effort Diagram," by H. F. Durand; "Results of Tests of Strength of Sewer Pipe," by M. A. Harris; and "A Vortex Automatic Lubricator for High-Speed Shafts," by St. John Day.

E. Geology and Geography.—This section was presided over by John C. Branner, Director of the Geological Survey of Arkansas. His address was on the "Relations to each other of the State and National Geological Surveys." These, he said, should comply with the following conditions: Geologic research being under the nominal direction of the leading investigators, would be so conducted as to be of the greatest utility to the largest number. When a piece of work was done by one it would be done for all, and duplication by State surveys and by individuals, and the consequent waste of energy, time, and money would cease. The functions and fields of official organizations being better defined, State and national surveys and individuals could so direct their efforts as to serve the purposes of others without neglecting their own immediate aims and without infringing upon each other's grounds. National and State surveys would be strengthened, and local organizations and individual effort encouraged. It would give us a better geologic literature, better instruction, better geologists, and more thorough specialists. And finally, we trust it would put a stop to those oracles of science who are so ready to prophesy in its name. This ideal state of affairs may never be brought about, but it is none the less desirable that we should aim at it. For the more nearly we approximate to it the more rapid will be the progress of science, and the progress of science is the progress of civilization." The titles of the papers read were as follow:

"Preservation of Glaciated Rocks," by Homer T. Fuller; "An Old Channel of the Niagara River," by Josiah T. Seovell; "Niagara. A Few Last Words in Reply to Mr. G. K. Gilbert's History of the Niagara River," by George W. Halley; "A Local Deposit of Glacial Gravel found in Park County, Ind.," by John T. Campbell; "Concerning Some Portions of *Castoroides ohioensis*, Foster, not heretofore known," by Joseph Moore; "The Barking Sands of the Hawaiian Islands" and "Occurrence of Sourous Sand on the Pacific Coast of the United States," by H. Carrington Bolton; "Floridite, a new Variety of Phosphorite found in Florida," by Edward T. Cox; "The Columbia Formation in the Mississippi Embayment," by W. J. McGee; "What constitutes the Taconic Mountains," by Newton H. Winchell; "The Formations and Artesian Wells of Memphis, Tenn.," by James M. Safford; "Progress in Moraine Mapping," by Thomas C. Chamberlain; "Remarks on Construction of Topographic Maps for Geologic Reports" and "Notes on the Occurrence of Pegmatite in Central Missouri," by Arthur Winslow; "The Amount of Natural Gas used in Glass Manufacture," by Edward Orton; "Differentiation of Subterranean Water Supplies," by John E. Siebel; "Some of the Qualifying Conditions of Successful Artesian-Well Boring in the Northwestern States" and "A Notable Dike in the Minnesota River Valley," by G. W. Hall; "Topo-

graphic Features of Arkansas Marbles," by T. C. Hopkins; "The Origin of the Manganese Ores of Northern Arkansas and its Effect on the Associated Strata," by R. A. F. Penrose, Jr.; "The Novaculites of Arkansas," by L. S. Griswold; "Subsidence and Deposition as Cause and Effect," by Edward W. Claypole; "On the Paleontological and Geological Relation of closely Similar Fossil Forms," by Charles A. White; "The Crystalline Rocks of Central Texas," "The Geology of the Wichita Mountains, Indian Territory," "The Silurian System and its Geanticline in Central Texas and Indian Territory," by Theodore B. Comstock; "Topographical Evidence of a Great and Sudden Diminution of the Water Supply in the Ancient Wabash," by John T. Campbell; "Glacial Action considered as a Continuous Phenomenon, having shifted from One Locality to another," by P. H. Van der Weyde; "Geology of Indian Territory South of Canadian River," by R. T. Hill and James S. Stone; "The Recent Explosion of Natural Gas in Shelby County, Ind.," by H. E. Pickett and Edward W. Claypole; "Note on the Stony Meteorite that recently fell in Washington County, Kan.," by E. H. S. Bailey; and "The Bendigo (Brazil) Meteorite," "A New Method of Searching for Rare Elements in Rocks," "Observations on the Genesis of Certain Magnetites" and "Mephitine-bearing Rocks in Brazil," by Orville A. Derby.

F. Biology.—The presiding officer of this section was Charles S. Minot, of Harvard University, who delivered an address "On Certain Phenomena of growing old." Concerning the laws of variation in living beings, he showed that these occur in an irregular series, reaching a climax at a certain age, and that the rate at which variations take place is greater in early life. This was illustrated by the age of college students, the growth of children, the age of maturity in women, the age of maternity, etc. Here the maximum occurs early in life. On the other hand, a study of the relations of suicide, for example, to age, shows the maximum much later. This opens a large field for the study of statistics, throwing light upon such problems as the relation of disease to age, and the time of greatest intellectual power and success. Turning to the question of variation in its relation to senility, or growing old, the speaker emphasized the fact that decline begins at birth. There is really no period of ascending development; the end begins with the start of life. But these changes are more rapid in early life, so that the older the animal, the longer time required to produce a certain change. There is, in other words, a progressive loss of vitality, the potential energy steadily declines. The following-named papers were read:

"Forest Trees of Indiana," by Stanley Coulter; "Food of Bees," by Albert J. Cook; "A Case of Morbid Affection of the Eye in a Cat," by Clarence L. Herrick; "Preliminary Notes on a New and Destructive Oat Disease," by B. T. Galloway; "Observations on the Variability of Disease Germs," by Theobald Smith; "Changes in the Ciliated Areas of the Alimentary Canal of the Amphibia during Development, and the Relation to the Mode of Respiration," by Simon H. Gage and Susanna P. Gage; "Combined Aerial and Aquatic Respiration in Amphibia, and the Functions of the External Gills in Forms hatched on Land," by Simon H. Gage; "The Trimorphism of *Uromyces Trifolii*," by J. K. Howell; "The Harvest Spiders of North America," by Clarence M. Weed; "On the Structure of Certain Paleozoic Fishes," by Edward D. Cope; "Morphology of the Blood Corpuscles," by Charles S. Minot; "Observations on the Life History of *Ucinula Spiralis*," by B. T. Galloway; "On the Seed Coats

of the Genus *Euphorbia*," by L. H. Pammel; "Observations on the Method of Growth of the Prothallia of the Filicinae, with Reference to their Relationships," and "Contributions to the Life History of *Isseus*," by Douglas H. Campbell; "Development of the Sporocarp of *Grimmia* *Bornetiana*," by V. M. Spalding; "The Relation of the Mexican Flora to that of the United States," by Sereno Watson; "Distribution of the North American Umbelliferae," by John M. Coulter; "The Distribution of Hepatiae of North America," by Lucien M. Underwood; "The Migration of Weeds," by Byron D. Halsted; "Geographical Distribution of North American Grasses," by William J. Beal; "Geographical Distribution of North American Cornaceae," by John M. Coulter; "The General Distribution of North American Plants," by Nathan L. Britton; "On the Plates of *Holoneura Rugosa*," by H. E. Williams; "External Termination of the Urethra in the Female of *Geomy's* *Bursarius*," by Herbert Osborn; "Work of the Botanical Division of the Department of Agriculture," by Frederick V. Coville; "On the Lack of the Distance Sense in the Prairie Dog," by Burt G. Wilder; "Disappearance of the Decidua Reflexa," by Charles S. Minot; "The Continuity of Protoplasm through the Cell-Walls of Plants," by William J. Beal and T. W. Tuomey; "The Distribution of Land Birds in the Philippine Islands," by J. B. Steere; "Potato Scab, a Bacterial Disease," by Henry L. Bolley; "The Development and Function of the so-called Cypress-Knees, with a Consideration of the Natural Habitat of the Tree," by W. P. Wilson; "Preliminary Note on the Genus *Rhynchospora* in North America" and "On *Rusbya*, a New Genus of *Vacciniaceae* from Bolivia," by Nathaniel L. Britton; "Exhibition of Diagrams illustrating the Formation of the Human Sylvian Fissure," by Burt G. Wilder; "Structure of the Stomach of *Amia Calva*," by G. S. Hopkins; "Differentiation of the Primitive Segments in Vertebrates," by Charles S. Minot; "A Support for the Chorda Tympani Nerve in Felidae," by T. B. Spence; "Notes on the Amphibia of Ithaca," by Simon H. Gage and H. W. Norris; "Account of the Marine Biological Laboratory at Wood's Holl," by Charles S. Minot; "The Desirability of establishing a Biological Station on the Gulf of Mexico," by W. P. Wilson; "Notes on a Monograph of the Genus *Lechea*," by Nathaniel L. Britton; "The Specific Germ of the Carnation Disease," by J. C. Arthur and Henry L. Bolley; "Notes upon Plants collected by Dr. Ed. Palmer at La Paz, Lower California, in 1890," by J. N. Rose; "Notes upon the Crystals in Certain Species of the *Arum* Family," by William R. Lazenby; and "Notes on *Isopyrum Bitematum*," by Charles W. Hargitt.

H. Anthropology.—The presiding officer of this section was Frank Baker, who delivered his address on "The Ascent of Man." In it he defined anthropology as the "comprehensive study of man, his origin, development, and present condition." He referred to the career of man through his long ages of evolution, and then passed to those special characteristics, such as "the modification of the limbs, with the erect position and segmentation of the body." Concerning the erect position of man, he said that it "is gradually acquired, and the difficulty that an infant experiences in learning to walk erect is strong evidence that it is an accomplishment acquired by the race late in its history. The human body gives evidence of a previous semi-erect position. The special changes of structure that secure the erect position are less marked in children and in the lower races. In the course of evolution of these changes there is a period of struggle before the body becomes thoroughly adapted to them." His address concluded with: "The results of the erect position, of increased size of brain, of greater

specialization of limbs, are almost incalculably great, so great that they affect the whole life of the animal, control his habits, direct his actions in war and in the chase, and finally mold peoples, nations, and races." The following-named papers were read:

"Indian Origin of Maple Sugar," by Henry W. Henshaw; "Fort Ancient," by Warren K. Moorehead; "Aboriginal Stone Implements of the Potomac Valley," by William H. Holmes; "Suggestion for a Pan-American as Precursor to an Universal Language," by R. T. Colburn; "Dialectic Studies in the Swedish Province of Dalecarlia" and "Peculiar Effects of One-sided Occupations on the Anatomy and Physiology of Man," by J. Muller; "Exhibition of Diagrams of the Brains and Medisected Heads of Man and a Chimpanzee," by Burt G. Wilder; "Exhibition of a Bone Image from Livingston County, N. Y.," and "Exhibition of Gold Beads of Indian Manufacture from Florida and New Jersey," by Charles C. Abbott; "Notice of a Singular Earth-work near Fosters, Little Miami Valley, Ohio," by Frederick W. Putnam; "A Study in Mental Statistics," by Joseph Jastrow; "Arts of Modern Savages for interpreting Archeology," by Otis T. Mason; "The Form of the External Ear," by H. D. Garrison; "Preliminary Steps to an Archeological Map of Franklin County, Indiana," by Harry M. Stoops; "The Relation of Mind to its Physical Basis," by Edward D. Cope; "Remarks upon the Mounds of Sullivan County, Indiana," by John W. Spencer; "On the Atlatl, or Spear-throwers, of Ancient Mexico," by Zelia Nuttall; "On an Ancient Hearth in the Little Miami Valley," by Frederick W. Putnam; "The Evolution of a Sect," by Anita N. McGee; and "On Obsidian Implements of California," "The Basket-Mortar of Southern California," and "The Adze," by H. N. Rust.

I. Economic Science and Statistics.—This section was presided over by J. Richards Dodge, the statistician of the United States Department of Agriculture, who chose as the subject of his address "The Standard of Living in America." After a full analysis of the facts, he reached "the inevitable conclusion that the people, the workers in all the hives of industry, the constructive forces of the nation, exist upon a higher plane than those of any other country." As to the question, "Shall the present standard of living be maintained?" he said: "It is a point upon which hangs the future education, enterprise, independence, and prosperity of the people of the United States. It depends on the industry of the producing classes and wisdom in the distribution of their labor for a production that shall meet their wants. If idleness shall be encouraged, production limited, importation enlarged, and dependence on foreign countries fostered, wages will be reduced and the ability to purchase, as well as the volume of production, will decline. If the advice of public and private teachers of repressive economy—to buy everything abroad and sit down in the enjoyment of the luxury of laziness at home—shall become the law of the land, short rations will follow, and high prices will only be abated by the inability of our people to purchase for consumption." The papers read before this section were:

"American Money Past and Present," by S. Dana Horton; "Natural Resources of Loudon County, Va.," by Laura O. Talbot; "The Forest as a National Resource," by Bernhard E. Fernow; "Biological Factors in Nutrition of Farm Crops," by Mauly Miles; "The Right Application of Heat to the Conversion of Food Materials," by Edward Atkinson; "Municipal Corporations and Natural Gas Supply," by Edward

Orton; "The Utilization of Surplus Labor," by James H. Kellogg; "Economic Value of the Energy of Neglected Children," by Laura O. Talbot; "Instruments of Valuation, or the Nature of Money Units," by S. Dana Horton; "Refrigerating Power of Trees," by Jacob Reese; "The Constitutionality of our National Economic Policy," by William S. Hill; "Hygienic Advantages of the Sterilization of Milk and its Best Methods," by Mary H. Abel and Ellen H. Richards; "The Ethics of Strikes," by William H. Hale; and "The Floods of the Mississippi, and how to prevent them," by George W. Holley.

Popular Features of the Proceedings.—

On the evening of Aug. 23 Rev. Horace C. Hovey delivered a lecture on the Wyandotte, Marengo, and Mammoth Caves, illustrated by projections of original photographs. Similarly on Aug. 24 C. Leo Mees delivered a lecture on "Electricity." These lectures were in compliment to the citizens of Indianapolis. On Aug. 22 Sections A, B, C, and D held their sessions in Terre Haute, where they were the guests of the Science Club of that city. The meeting-place was the Rose Polytechnic Institute, which was placed at their disposal by its officers. A reception to the ladies in attendance at the meeting was given by Mayor and Mrs. Thomas L. Sullivan, at their residence, on Aug. 20; also in the evening a reception was given at the Institution for the Blind. A garden party at the residence of Alfred F. Potts, secretary of the Local Committee, was tendered on the evening of Aug. 21, at which Gen. Lew. Wallace made an address of welcome. Saturday of the meeting is always devoted to some excursion, and on this occasion a trip was arranged to cover the natural-gas territory of Indiana. A special train was provided, which left Indianapolis on Aug. 23, and went north over the Lake Erie and Western Railroad through Noblesville to Kokomo, where the gas field was explored, and a visit was made to the largest plate-glass factory in the United States and other establishments where natural gas is applied to manufacturing. From Kokomo, the party was taken to Marion, thence to Muncie, and from Muncie to Anderson, where a magnificent display of gas at night was given, embracing a beautiful and fantastic feature by the introduction of a gas main under the river. From Anderson the party returned to Indianapolis. Subsequent to the meeting excursions were made to Mammoth Cave, Kentucky, and to Marengo Cave, Indiana.

Affiliated Organizations.—The Society for the Promotion of Agricultural Science and the American Geological Society held meetings during Aug. 18 and 19, prior to the regular session of the association. The Entomological Club of the association and the Botanical Club of the association convened as usual for their special objects. For the latter an excursion to South Waveland was provided, whence they visited the "Shades of Death."

Final Sessions.—At the last meeting of the general session business growing out of the work accomplished during the week was transacted. Among the important reports considered were the following: One instructing the Committee on Forestry to bring the matter of preserving the groves of sequoia trees of Californin to the special attention of Congress and the Secretary of the Interior; a resolution recognizing the serv-

ices to science of Señors Barao de Girahy and José Carlos de Carvalho of Brazil in causing the transportation from the interior of Bahia to the Museum in Rio de Janeiro of the famous Bendigo meteorite; progress from the Committee on Reduction of the Tariff on Scientific Books was reported; it was resolved that the Secretary of the Navy be requested to consider the memorial recently presented by various observatories relative to furnishing of time signals to the Western Union Telegraph Company by the Naval Observatory for commercial purposes. The sum of \$250 was appropriated from the Research fund for the continuation of the investigation of the velocity of light in the magnetic field. A resolution empowering the permanent secretary to extend invitations to the governments of Mexico, and Central and South America to send delegates from the scientific societies of those countries to the meeting at Washington was adopted. The secretary reported 364 to be the total number of members registered, and that 259 papers were presented before the association at the meeting.

Next Meeting.—The meeting in 1891 will be held in Washington, D. C., during August. The following officers were chosen:

President, Albert B. Prescott, Ann Arbor, Mich. Vice-Presidents: A, Edward W. Hyde, Cincinnati, Ohio; B, Francis E. Nipher, St. Louis, Mo.; C, Robert C. Kedzie, Agricultural College, Mich.; D, Thomas Gray, Terre Haute, Ind.; E, John J. Stevenson, New York city; F, John M. Coulter, Crawfordsville, Ind.; H, Joseph Jastrow, Madison, Wis.; I, Edmund J. James, Philadelphia, Pa. Permanent Secretary, Frederick W. Putnam, Cambridge, Mass. General Secretary, Harvey W. Wiley, Washington, D. C. Secretary of the Council, Amos W. Butler, Brookville, Ind. Auditors, Henry Wheatland, Salem, Mass.; Thomas Meehan, Germantown, Pa. Secretaries of sections: A, E. D. Preston, Washington, D. C.; B, Alexander Macfarlane, Austin, Tex.; C, Thomas H. Norton, Cincinnati, Ohio; D, William Kent, New York; E, W. J. McGee, Washington, D. C.; F, Albert J. Cook, Agricultural College, Mich.; H, William H. Holmes, Washington, D. C.; I, Bernhard E. Fernow, Washington, D. C. Treasurer, William Lilly, Mauch Chunk, Pa. Besides which 89 fellows were elected and James Hall, one of the founders of the American Association of Geologists and Naturalists and State Geologist of New York, was elected to the grade of honorary fellowship for life.

British.—The sixtieth annual meeting of the British Association for the Advancement of Science was held in Leeds. Its sessions began on Sept. 3, and continued for one week. The officers were: Sir Frederick A. Abel, President of the Association. Section Presidents: A, Mathematical and Physical Science, J. W. L. Glaisher; B, Chemical Science, Thomas E. Thorpe; C, Geology, A. H. Green; D, Biology, A. Milnes Marshall; E, Geography, Lieut.-Col. Sir R. Lambert Playfair; F, Economic Science and Statistics, Alfred Marshall; G, Mechanical Science, Capt. Andrew Noble; H, Anthropology, John Evans. A. W. Williamson, General Treasurer; and Sir Douglas Galton and A. Vernon Harcourt, General Secretaries.

General Session.—The first session met on Sept. 3, when President William H. Flower called the association to order, and the exercises began with the reading of the report of the council for 1889-'90. It contained the announcement of the election of the following corresponding members from abroad: M. A. Gobert, Brussels, Belgium; G. Gilsen, Louvain, Belgium; F. Nansen, Christi-



SIR FREDERICK A. ABEL.

ania, Sweden; and A. S. Packard, Providence, R. I. Also it advised the printing in full of the following papers: "The Incidence and Effects of Import and Export Duties," by C. F. Bastable, and "The Comtist Criticism of Economic Science," by Rev. Dr. Cunningham. The council were recommended to urge upon the Government of India: "(a) The desirability of procuring anthropometric measurements of a representative series of tribes and castes in the Punjab, Bombay, Madras, the Central Provinces, and Assam, it being understood that trained observers are already available. (b) Also that in the enumerators' schedule of the census of 1891 provision should be made for recording not only the caste to which a man belongs, but also the endogamous and exogamous groups within which he is a member." Correspondence toward the accomplishment of the forgoing purpose had been conducted with the Indian officials through the office of the Secretary of State for India. The committee also recommended the publication of the report of the committee on a uniform nomenclature for the fundamental units of mechanics. The treasurer submitted the balance-sheet for the year, showing an excess of expenditure over receipts of £753 9s. The sectional officers were then elected, including the presidents mentioned above, six or more vice-presidents, and four secretaries. In the evening the association assembled in the Coliseum, and President Flower introduced the incoming president, gracefully referring to Sir Frederick Abel's researches in regard to explosives as tending to diminish the horrors of war, as well as to the great part which he had played in endeavoring to prevent mining accidents.

The President's Address.—On this occasion the president dwelt upon the advances made in the practical applications of electricity to the telegraph, to the telephone, as a tractive force, and as an illuminant; upon the modern chemis-

try of metallurgy; upon the modern development of explosives; upon the greater safety of mines; and upon the increased employment of natural mineral oil and gas for the purposes of heating and of illumination. In opening, he referred to the meeting held in Leeds in 1858, under the presidency of Richard Owen, and then to the illustrious men who were born or lived in the vicinity. Of Priestley, who was born within six miles of Leeds, he said that his "name holds rank among the foremost of successful workers in science; who, by brilliant powers of experimental investigation, rapidly achieved a series of discoveries which helped largely to dispel the shroud of mystery surrounding the art of alchemy, and to lay the foundation of true chemical science." Further, he said: "His acquaintance with Franklin probably developed the taste for the study of electric science which led him to labor successfully in this direction." Then, passing to the development of applied science, he first considered electricity, in "which the greatest strides have been made since the association met in Leeds in 1858." It was in that year that the first Atlantic cable was successfully laid, and so he described the advances made by the application of electricity to telegraphy. He told of the early history of electric lighting and the telephone, and of the wire lighting companies now in London, while "there are already twenty-seven lighting stations actually at work in different towns, besides others in course of establishment, and many more projected." Continuing in this direction, he added: "Our recent progress is insignificant compared with the strides made in the application of electric lighting in the United States." Of the telephone, he told how the National Telephone Company "has now 22,743 exchange lines, besides nearly 5,000 private lines; its exchanges number 272, and its call offices 326. The number of instruments under rental in England has now reached 99,000." The electric transmission of power and its application to railways and to water traffic were described. Under the head of electric welding and fusing, he described the results achieved by Elihu Thomson and the Cowles Brothers in this country. This led to the aluminum alloys, and of the Castner process at Oldbury he said that it "constitutes one of the most interesting of recent illustrations of the progress made in technical chemistry, consequent upon the happy blending of chemical with mechanical science, through the labors of the chemical engineer." (Castner is an American, and studied chemistry in New York. He is now but thirty years of age.) Other metallurgical advances were discussed and much credit was given to the American metallurgists for their work. The progress made by sanitary science since the period of the Crimean War was described, after which he took up that branch of science which is peculiarly his own, namely, explosives. He first considered in detail the improvements made in explosives and cannon powders since 1858. In this part he gave credit to the work done by Rodman and Doremus, but described in full the results of experiments made by Capt. Noble and himself at Waltham Abbey. The smokeless powders received full consideration, and the French, German, Belgian, and English inventions were described,

For gun-cotton, on which he has done so much work himself, he said: "So far as smokelessness is concerned, no material can surpass gun-cotton." Explosives for shells, the advances made in the manufacture of high explosives, and their use in torpedoes, were each considered in turn, and then he discussed mine explosions and safety lamps, on which topic he is perhaps the best authority in England. He referred to the improved explosives and, in blasting, to the able and safe portable electric lamps used in mines, and the general abandonment of the unprotected Davy and similar safety lamps. Explosions in ships and mills, and the investigations of their causes with means for their prevention formed the final part of this branch of his address. The development of the petroleum industry in the United States, from the production of 5,000 barrels in 1859 to that of 31,000,000 in 1882, was described. Other petroleum fields were mentioned, and during 1889, he said, "the imports of kerosene into London and the chief ports of the United Kingdom amounted to 1,116,205 barrels of American oil and 771,227 barrels of Russian oil. From petroleum, he passed to the consideration of natural gas and water gas, their application, development, and uses. His closing remarks were on the advantages of technical education and the value of natural history and natural science museums, illustrating the latter by a description of the Imperial Institute, which is to contain the natural science collections made as an imperial memorial of the Queen's Jubilee.

Addresses of the Presidents of Sections.—

A. Mathematics and Physics.—Dr. J. W. L. Glaisher, in his address, confined himself to a few general considerations relating to pure mathematics, by which expression he meant "the abstract sciences that did not rest upon experiment in the ordinary sense of the term, their fundamental principles being derived from observations so simple as to be more or less axiomatic. To that class belonged the theories of magnitude and position, the former including all that relating to quantity, whether discrete or continuous, and the latter including all branches of geometry. The science of continuous magnitude was alone a vast region, containing many beautiful and extensive mathematical theories. Among the more important might be mentioned the theories of double and of multiple periodicity, the treatment of functions of complex variables, the transformation of algebraical expressions (modern algebra), and the higher treatment of algebraical and differential equations as distinguished from their mere solution. It was that kind of scientific exploration which fascinated and rewarded the pure mathematician, and upon which his best work was spent." He made a strong plea for the study of pure mathematics, closing with the hope "that the apathy of so many years might lead to a splendid awakening in this country, and that our past neglect of this most beautiful theory might be atoned for in the future by special devotion and appreciation." A paper on the "Spectra of the Metals" was read by Prof. Henry A. Rowland, and A. L. Roch, of Boston, gave a description of an observatory recently erected on Mount Blanc.

B. Chemistry.—The subject of Prof. Thomas E. Thorpe's address was Priestley. He told of

his early life and how, living near a brewery, he became interested in the gases produced during fermentation, from which he made researches leading to "the extraordinary succession of discoveries which earned for him the title of the Father of Pneumatic Chemistry." A recent book on "*La Revolution Chimique*," by Berthelot, perpetual secretary of the French Academy, claims for Lavoisier the discovery of oxygen, and much of Prof. Thorpe's address was taken up in showing the priority of Priestley's discovery and establishing from Lavoisier's own writings the fact that he admitted Priestley's priority. His conclusion was: "It would be heaping *Ossa* on *Pelion* to show what Lavoisier's contemporaries thought of his claims. It would be more pleasant to dwell upon his virtues than on his faults; but M. Berthelot's book required a public answer, and in no place could that answer be more fittingly given than in Leeds, which saw the dawn of that work out of which these grand discoveries arose." The report of the committee on the present method of teaching chemistry was presented before the section and produced considerable discussion, in which Sir Henry E. Roscoe took part and said: "The fact that the sum of £700,000 was being appropriated to technical education showed that the legislature was now fully alive to the importance of the spread of technical and scientific education.

C. Geology.—The president of this section was Prof. A. H. Green, who spoke of the value of geology as an educational instrument. He deplored the fact that too often scientists were prone to assume conclusions from geological evidence when the facts were capable of more than one interpretation. "Inferences based on such incomplete and shaky foundations must necessarily be very largely hypothetical. That such was the character of a great portion of the conclusions of geology, all were ready enough to allow." As to the study of geology: "One way to make a geologist is not to teach him any geology at all to begin with—to send him first into a laboratory, to give him a good long spell at observations and measurements requiring the minutest accuracy, and so saturate his mind with the conception of exactness that nothing shall ever afterward drive it out." The best way to teach geology is by practical experience both in the field and in the laboratory. A scheme was outlined in which during the first year the lectures and book work should deal with physical geology and include laboratory work on minerals with blow-piping. During a second year stratigraphical geology should be taught with practical work in palaeontology. A third year should be given to widening and strengthening the knowledge already acquired, while the practical work should extend to the field, where mapping should be taught.

Prof. Othniel C. Marsh, of Yale University, gave an account of his discoveries of the gigantic *Ceratopsidae* or horned dinosaurs.

D. Biology.—The development of animals formed the theme of the remarks upon which Dr. A. Milnes Marshall addressed the section. His own speciality of embryology was fully discussed. He referred to the imperfection of the geological records, and further said: "Natural selection, though consistent with and capable of leading to steady upward progress and improve-

ment, by no means involved such progress as a necessary consequence." Of degeneration, recognized by Darwin as a possibility, he said that "both Dohm and Lankester suggested that degeneration occurred much more widely than was generally recognized." Embryology was a means, not an end. Their ambition was to explain in what manner and by what stages the present structure of animals had been attained. Toward this embryology afforded most potent aid, and it must not be forgotten that it was through comparative anatomy that its power to help was derived. Anatomy defined the goal, told us of the things that had to be explained; embryology offered us a means, otherwise denied to us, of attaining it. Comparative anatomy and palæontology must be studied most earnestly by those who would turn the lessons of embryology to best account.

E. *Geography*.—Sir R. Lambert Playfair, who spent a quarter of a century as British consul-general to Algiers, treated the members of his section to a historico-geographical tour round the shores of the Mediterranean Sea, sketching the succession of events in those regions from the founding of Tyre to the French annexation of Tunis. His address was perhaps the most popular of all, and among his statements were many facts of interest. He said: "The zone of desert called the Sahara was popularly supposed to have been a vast inland sea in very recent times, but the theory was supported by geological facts wrongly interpreted." The salt does not prove the former existence of an inland sea; it is produced by the concentration of the natural salts washed down by winter rains with which the unevaporated residue of water becomes saturated. The boring of artesian wells seemed to him "to be the true solution of an inland sea." The flooding of the Sahara from the Gulf of Gabes "was as visionary and impracticable as that for introducing the waters of the Atlantic from the west coast of Africa." How civilization had grown along the African coasts until the destruction of Carthage, which he regarded as "a heavy blow to Mediterranean commerce . . . because Rome absorbed wealth and did not produce," and then only revived under the Moors and culminated in the ninth century, and the present revival of advanced civilization under the French rule, were all fully described. Once more this historic sea has become the highway of nations; the persistent energy and genius of two men have revolutionized navigation, opening new and boundless fields for commerce, and it is hardly too much to say that if the Mediterranean is to be restored to its old position of importance, if the struggle for Africa is to result in its regeneration as happened in the New World, if the dark places still remaining in the farther East are to be civilized, it will be in a great measure due to Waghorn and De Lesseps, who developed the overland route and created the Suez Canal.

F. *Economic Science and Statistics*.—"Some Aspects of Competition" was the subject of the address by Prof. Alfred Marshall. Concerning protection, he said that after his visit to America in 1875 he decided that "if an American, I should unhesitatingly vote for free trade. . . . Since that time the advantages of protection in America have steadily diminished and those of free trade

have increased." For England, he said, "a protective policy would, I believe, be an unmixed and grievous policy." The labor question and kindred topics were fully treated. His last words are: "Every year economic problems become more complex; every year the necessity of studying them from many different points of view and in many different connections becomes more urgent. Every year it is more manifest that we need to have more knowledge and to get it soon in order to escape, on the one hand, from the cruelty and waste of irresponsible competition and the licentious use of wealth and, on the other, from the tyranny and the spiritual death of an iron-bound socialism."

Among the papers read was one on "Recent Forms of Industrial Combination," by Prof. Arthur T. Hadley, of Yale University. Also "The Ideal Aim of the Economist," by Mrs. Victoria C. Woodhull Martin.

G. *Mechanical Science*.—Capt. Noble, of the British navy, presided over this section, and his address described the advances made in naval construction since the Crimean War. He said: "Were two vessels of the old type to meet, one armed with her ancient armament, the other with modern guns, it would be vain for the former to attempt to close. She would be annihilated long before she approached sufficiently near to her antagonist to permit her guns to be used with any effect." He then entered into a minute comparison of the strength of the "Victoria" and the "Trafalgar," also comparing the former with the "Victory." One item indicates the story; the heaviest shot used in the "Victory" was 68 pounds, while in the "Victoria" shot weighing 1,800 pounds are used. "Seamanship will, I fear, in future naval battles no longer play the conspicuous part it has done in times past. The weather gauge will belong not to the ablest sailor, but to the best engineer and fastest vessel."

H. *Anthropology*.—Owing to the absence of the president, John Evans, his address was read by Prof. F. W. Rudler. It treated largely of the present condition of the science and of its development during the past twenty years. Of the antiquity of the human race, "the evidence of the existence of the human race has been satisfactorily established for Quarternary times." Data concerning earlier man were reviewed, but the speaker said "that the present verdict as to Tertiary man must be in the form of 'not proven.'" As to the origin and home of the Aryan man, different views prevailed, and any settlement of the question was impossible, although by means of linguistic palæontology and prehistoric archaeology advances were being made that in time might solve the problem. He spoke of the "vastly improved means of comparison and study that the ethnologists of to-day possess as compared with those of twenty years ago," and referred to the "ethnological galleries of the British Museum," which he contended would "bear comparison with any of those in the other European capitals." After discussing the subject of color blindness and the proposed anthropological survey of the tribes and castes in India, the address was brought to a close with some remarks on the dwarfs found by Stanley in Africa. An elaborate paper giving many details respecting the customs of the tribes of British Columbia

was read by Horatio Hale, who is an American by birth and ancestry, although a resident of Canada.

Popular Features.—Two general lectures were delivered before the association—one on "Mimicry," by E. B. Poulton, and the other on "Quartz Fibers and their Applications," by C. Vernon Boys. Also Prof. John Perry gave a lecture on "Spinning Tops." Visits were paid during the week to places of interest, including York, Pontefract, Sheffield, Wakefield, Walton, Bridlington, Conisburgh Castle, Farnley Hall, Harewood, and the Ruskin Museum and Meersbrook Park. After the meeting ten excursions were provided for the pleasure of the members. Of these, that to Ripon and Fountains Abbey, and that to Castle Howard and Kirkham Abbey were the most popular. A geological party visited Ingleborough, where they were shown the Great Craven Fault, Malham Cave, and Goodale Scar. The remaining excursions were to Beverley and Selby Abbey; Skipton, Bolton, and Ilkley; Knaresborough, Harrogate, and Plumpton; Ingleborough; Coxwold Byland, Rievaulx Abbeys, and Helmsley; and York.

Next Meeting.—At a gathering of the General Committee it was decided to hold the meeting in 1891 at Cardiff, beginning on Aug. 19, and the meeting in 1892 will be held in Edinburgh. Dr. William Huggins, whose scientific reputation has been attained by his studies of the application of the spectroscope to astronomy, was chosen president, and Lord Windsor (Lord-Lieutenant of Glamorganshire), the Marquis of Bute, Lord Rayleigh, Lord Tredegar, Lord Aberdare, Sir J. T. D. Llewellyn, Prof. Michael Forster, and Dr. A. Geikie were elected vice-presidents. The other officers chosen were Prof. A. W. Williamson, general treasurer; Sir Douglas Galton and Vernon Harcourt, general secretaries; and George Griffith, assistant general secretary. The attendance at the meeting was good, though not equal to that of last year. Some 1,775 tickets were sold, and the receipts were £1,776, out of which £1,335 was distributed in 34 grants to scientific men for the purpose of aiding them in various investigations.

Australasian.—This association came into existence in 1888, and held its first meeting at Sydney in August of that year. According to its rules, it must meet in turn in the capital cities of the various colonies, and the second meeting was held in Melbourne, beginning on Jan. 7, and was continued during the following week. It is the rule to choose the vice-presidents and secretaries from the colony in which the association meets, while the president is selected from elsewhere. The officers of the meeting were: President, Baron Sir Ferdinand von Mueller; General Secretary, Archibald Liversidge; President of Section A, Astronomy, Mathematics, Physics, and Mechanics, Prof. Threlfall; President of Section B, Chemistry and Mineralogy, Prof. E. H. Rennie; President of Section C, Geology and Palaeontology, Prof. Hutton; President of Section D, Biology, Prof. A. P. Thomas; President of Section E, Geography, W. H. Miskin; President of Section F, Economic and Social Science and Statistics, R. M. Johnston; President of Section G, Anthropology, J. Forrest; President of Section H, Sanitary

Science and Hygiene, Dr. J. Ashburton Thomas; President of Section I, Literature and Fine Arts, J. W. Agnew; President of Section J, Architecture and Engineering, Prof. Warren. The buildings and grounds of the University of Melbourne were placed at the disposal of the association, and the section meetings were held in its halls. An official journal of the proceedings was published each morning, and every member was supplied with a copy of a special hand-book compiled for the occasion and containing the following chapters: "History of Victoria," "Geology of Melbourne," "Aborigines of Victoria," "Zoology, Vertebrata," "Zoology, Invertebrata," "Entomology," "Botany," "Commerce and Manufactures," and "Climate." The Government of Victoria voted £1,000 toward defraying the expenses of the meeting, and the entertainments provided by the hospitality of citizens were "numerous and on a most sumptuous scale." Short afternoon excursions to places of scientific interest were arranged for, and at the close of the meeting longer trips under special leaders were made to the Australian Alps, the Black Spur and Marysville, Gippsland Lakes, Ferntree Gully, Ballarat, and Sandhurst. The roll of membership includes 1,060 names, and 600 members were in attendance. Upward of 150 papers were read before the sections.

Presidential Addresses.—Baron von Mueller, who has made a reputation for himself as an explorer in the early history of the colonies and since has achieved special distinction as an authority on the botany of Australia, addressed the association on the past and future of Australasian science. Of the other addresses, that before Section A by Prof. Threlfall was on the present state of electrical knowledge. Prof. Rennie spoke before Section B of the work that had been done in the investigations of the chemistry of native plants and minerals, and made suggestions as to how this work might in future be encouraged and facilitated. The address before Section C by Prof. Hutton was on the oscillations of the earth's surface. Prof. Thomas discussed before Section D the problems awaiting the biologist in Australia and the local desiderata in scientific education. The explorations in Australia and New Guinea and the importance to the colonies of Antarctic exploration as well as the geographical work now in progress in other parts of the colony formed the subject of the address before Section E by W. H. Miskin. The current social and economic problems of the colonies were discussed by R. M. Johnston before Section F. J. Forrest's address before Section G dealt with the present condition of the Australian aboriginal races. Dr. Thomas discussed the sanitary organizations of Victoria and New South Wales and the modes of obtaining and interpreting health statistics before Section I. A review of the literature and art of Australia was the subject of Dr. Agnew's address before Section I. Prof. Warren spoke before Section J on the education of engineers with special reference to the local conditions and requirements.

Committee Reports.—The most important of the committee reports was that on the census of the known minerals of the Australian colonies. The portions dealing with New South

Wales, Queensland, and New Zealand have been finished, while the parts relating to Victoria and Tasmania are in process of completion. A project for establishing and endowing a central biological station at Port Jackson was started. A report was presented on the Polynesian races and Polynesian bibliography. New special committees were appointed to investigate and report on the subjects of wheat-rust, the manner of laying out towns, the preparation of geological maps, the arrangement of museums, the fertilization of figs, Australian tides, and the present state of knowledge of Australasian palæontology; also a committee was appointed to formulate a scheme for obtaining practical assistance from the various colonial governments in the collection of material for research—chemical, geological, or biological.

The next meeting will be held in Christ Church, New Zealand, probably in January, 1891, and Sir James Hector has been elected president and Prof. Hutton, of Canterbury College, secretary. It was also decided to hold the fourth in Hobart, Tasmania, so that the association will not again meet on the mainland for three years.

French.—The nineteenth annual session of the French Association for the Advancement of Science was held in Limoges during Aug. 7 to 14. The opening address by the president, Alfred Cornu, who is professor at the Polytechnic School in Paris and chief engineer of the Mining Bureau, was on "The Part Played by Physics in the Recent Progress of Science." The association was welcomed by the Mayor of Limoges, after which the general secretary gave a *résumé* of the work done by science in France during 1889-'90, and then the treasurer made his annual report.

President's Address.—Beginning with chemistry, Prof. Cornu pointed out that the introduction and use of the chemical balance by Richter, Wenzel, Dalton, and Lavoisier led to the substitution of the laws of multiple and equivalent proportions and the indestructibility of matter for the hypotheses held by the alchemists. After referring to other instruments, he said:

The introduction of the spectroscope into the chemical laboratory for purposes of analysis by Bunsen and Kirchhoff marks an important epoch in the history of chemistry. This instrument has been entirely created by the labors of physicists, the prism of Newton, the telescope of Fraunhofer, and the collimator of Babinet marking stages in its evolution. Bunsen and Kirchhoff demonstrated the power of their method of analysis by the discovery of rubidium and cesium; in fact, it is only necessary to observe an unknown line in the spectrum of a substance to establish the existence of a new element.

Continuing his discussion of other apparatus by means of which great advances have been made in the science of physics, he concluded that portion of his address with: "It appears, therefore, that each time chemistry has borrowed from physics some new method it has entered into a prolific field of investigation, conceptions have been extended and given a more precise meaning, and chemical knowledge advanced in a manner proportional to the power of the adopted methods." Then, turning to the other sciences, he said:

The other natural sciences have benefited in the same way. Up to the seventeenth century astron-

omers had no means of assisting their vision, and therefore they could only make observations of the movements of the heavenly bodies. In spite, however, of the simplicity of the means of observation, the work of Hipparchus, Ptolemy, Copernicus, Tycho Brahe, and Kepler contained a considerable amount of information with respect to celestial motions, but nothing was known of the constitution of the bodies observed. With the refracting telescope of Galileo and Newton's reflector, astronomy underwent a transformation; the sun was found to have spots and facule; the plains, mountains, and craters of the moon were observed; Venus was shown to go through phases in the same manner as our satellite; Jupiter's belts and satellites were seen; and the beauty of Saturn and his rings revealed.

With reference to the theory of physics, he said:

Great advancements have also been made on the purely theoretical side. Ampère, Poisson, Fourier, Ohm, Gauss, Helmholtz, Thomson, and Maxwell have done much to connect electricity with mechanical laws. Again, electro-magnetic and optical phenomena obey the same elementary laws and appear to be two manifestations of the movement of the same medium—the ether; thus optical problems may be settled with the equations of electro-magnetism. From an experimental point of view, results full of promise have already been obtained; the velocity of light, found by optical methods, has also been determined by measures purely electrical, and recently M. Hertz has accomplished experimentally the identification of electrical discharges with light waves. . . . All these facts show that as our knowledge increases the distinctions between different branches of science vanish; the limits which have been traced between them are shown to be artificial, and only testify to ignorance of natural laws; but the efforts of successive generations have not been vain, and we look forward to the time when these limits will be effaced and all the branches of natural philosophy be united in one harmonious whole.

The Treasurer's Report.—M. Émile Galant reported the total receipts to be \$18,424.00, and the expenditures \$14,559.20, while the capital has reached the sum of \$167,984.76. Grants amounting to \$2,580 were made to scientists engaged in prosecuting original investigations. The treasurer congratulated the association on the happy condition of its finances.

Excursions.—Two days of the meeting were especially set apart for excursions. The vicinity of Limoges was thoroughly explored, and the industrial institutions and technical works visited. Besides these, an interesting feature of the meeting was the unveiling of a statue of the great physicist Gay-Lussac, which took place on Aug. 11. Jules Roche, the Minister of Commerce, presided on that occasion, and an address reviewing the life and work of Gay-Lussac was delivered by P. P. Dehérain, one of the vice-presidents of the association.

ASTRONOMY, PROGRESS OF, IN 1890. Since the close of the astronomical record for 1889, the labors of astronomers have been attended with more than the usual satisfactory results. Numerous discoveries, some of them highly important, have been made, a synopsis of which will be found in the following pages, covering the year ending with October, 1890.

United States Eclipse Expedition.—To observe the total eclipse of the sun on Dec. 22, 1889, the Government equipped an expedition on a scale of magnitude vouchsafed to no previous one undertaken by any Government. But, un-

fortunately, as has often happened, clouds at the moment of totality thwarted all efforts to increase our scanty knowledge of the sun's immediate surroundings. Secretary Tracy, of the Navy Department, placed the entire management of the affair in the hands of Prof. David P. Todd, Director of the observatory of Amherst College, and several astronomers and scientists made up the *personnel* of the expedition. The steamship "Pensacola" was detailed to transport the party and instruments to the west coast of Africa, 75 miles south of St. Paul de Loanda. The station selected was on a bald bluff 150 yards from the beach. The novel and ingenious manner in which the instruments were mounted and automatically manipulated reflects great credit upon the astronomer in charge. An equatorial stand on a large scale (English style of mounting) was constructed on which were mounted nearly all the instruments. A split polar axis eleven feet long was made of six-inch wrought-iron tubes placed two feet apart and firmly fixed on cast-iron supports. On the polar axis were arranged two mirrors and twenty-three telescopes including a finder or directing telescope of 7½ inches aperture with a high-power eye-piece for the correct pointing of all. As the latitude of the station was but 10° south of the equator, the polar axis was nearly horizontal, which greatly enhanced the value of this unique system of mounting. This axis and the instruments were moved by a substantial driving-clock. These plans covered a wide range of work, but were frustrated by a single cloud. Just before the first and after the fourth contacts eighty photographs were taken for the purpose of testing the working of the numerous automatic devices, and between the first and second contacts thirty pictures of the partially eclipsed sun were secured.

Lick Observatory Expedition. Through the liberality of Col. Charles F. Crocker, Prof. Edward S. Holden, Director of Lick Observatory, was enabled to send Profs. Burnham and Schaeberle, of his staff, to Cayenne, French Guiana, South America, for the observation of the same eclipse. These gentlemen were there joined by Charles Rockwell, of Tarrytown, N. Y., he using a reflector while they used two refractors. Clouds with rain prevented the first contact from being seen; but when the sun was about two thirds covered by the advancing moon, the sky suddenly cleared. Each of the three observers secured four negatives during the total phase. Of these plates Prof. Holden says, "They are successful and of sufficient number."

English Eclipse Party.—This expedition located on Isle de Salut, 22 miles northward from Cayenne, but its success was imperilled by the death of Father Perry, its chief, who fell a victim to a prevailing disease, dying the day after the eclipse. The photographs made by him were carried to England, and there developed and found to possess great value regarding the sun's corona. Capt. Abney, who manipulated them, says, "From a cursory examination I should say that the corona close to the limb of the sun is about 200 times brighter than the corona half a diameter away."

Meteors.—A remarkable meteor, from which issued a shower of stones, passed over the States of Iowa and Minnesota between five and six

o'clock p.m., on May 2, 1890. The explosion occurred eleven miles north of Forest City, Iowa, and the fragments were scattered over the county of Winnebago. The largest piece weighed 104 pounds. A stone from this meteor, weighing 66 pounds, fell in the same county, on a farm owned by John Goddovel, but was found by Peter Hugland, who sold it to Prof. Newton H. Winchell. The owner of the farm sued for possession of the meteorite, and the lower court decided in the farmer's favor, but the case has been appealed. It is of the stone variety, and analysis shows it to contain silica, iron, aluminum, lime, and magnesium. Another stone-fall took place in Washington County, Kansas, on June 25, 1890, at 12.45 p.m. This also was of the stone class. It fell in Farmington Township, on a farm owned by Lydia V. Kelsey, but rented by J. H. January, who, at the time, as he says, was under a wagon making repairs, but came out at the sound of the approaching meteor; he had hardly gained an erect position when the stone struck the ground a few rods distant, throwing up the earth to a height of 40 feet, and outward a distance of about 25 feet, and imbedded itself to a depth of 4 feet, from which, three hours later, he unearthed it, and, though so short a time had elapsed since its fall, it was cold. A lady, also, who was near, testified to having seen it strike the ground. Either from unequal expansion by heat or by concussion with the hard substratum that arrested its motion, the stone was found to be cracked. It was not a fragment, as is often found, but an entire meteor. Its weight was 148 pounds. If, as is alleged, the noise of its flight was heard before the stone struck the earth, we are confronted with the marvelous statement that a stone may fall from space and yet reach the earth with a velocity less than that of sound, which is an impossibility. From this case also a curious legal question has arisen as to the ownership of aërolites falling on land owned by one person and leased by another, and the decision of the courts will be watched with interest.

The origin of the stones falling from the sky, though much discussed, is still regarded as one of the profound mysteries with which astronomy abounds. That there is no connection between aërolitic stones and shooting stars is generally agreed. During the extraordinary star showers of 1799, 1833, 1866, 1867, and 1872, not a stone was known to reach the earth. Shooting stars appear to be of cometary origin, while aërolites seem more likely to be planetoidal. The scientific and secular journals, during the year, have announced the usual number of bright meteors and bolides, but they do not possess sufficient interest to warrant their insertion here.

Double Stars.—In the "Astronomische Nachrichten," Nos. 2,929, 2,930, for 1889, Mr. Burnham, of Lick Observatory, published a list of 54 double stars discovered with the 36-inch refractor, together with measurements of nearly 50 previously catalogued. Several are new components of well-known pairs (thus making them triple), and they are generally distinguished for their closeness or excessive faintness. In No. 2,956 of the same journal he has given a table of 61 new pairs and measures of 77 others. The grand total of his 16 published lists is 1,154. They were discovered with telescopes of 6, 12,

15 $\frac{1}{2}$, 18 $\frac{1}{2}$, and 36 inches respectively. A large majority were detected with the 6-inch. His catalogues include Beta Cancri, Beta and Mu Draconis, and Alpha, Theta, and 78 Urse Majoris. With a power of 3,300 diameters on the 36-inch telescope no duplicity nor elongation, as he had formerly suspected, was apparent in Beta Orionis; neither was any companion seen nearer to the pole star than the well-known one, notwithstanding the oft-reiterated published statements that one or more had been seen with telescopes of 3-inch aperture. He expresses the opinion that, even at periastron, the companion of Sirius will not get beyond the reach of the 36-inch telescope.

Prof. G. W. Hough, of the new Dearborn Observatory at Evanston, Ill., has published in the same periodical, Nos. 2,977 and 2,978, a second catalogue of 94 new and difficult pairs, the distances of 48 of them ranging from 0.25' to 0.5'.

Nebulae.—No notice of newly discovered nebulae has been given in these annual reports since 1887, when the publication of the sixth list of 100 each discovered at Warner Observatory, Rochester, N. Y., was chronicled. Since then, its director has made public, in the "Astronomische Nachrichten," his seventh, eighth, and ninth catalogues of 100 each. The majority of these bodies are of unimagined faintness and beyond the ken of most telescopes, and of eyes not trained for the work. Since the days of the Herschels, the principal astronomers who have kept up this quest so auspiciously begun by Sir William, have been D'Arrest, Stephan, Rosse, Stone, Marth, and Swift. Nearly 8,000 are now catalogued, and it seems safe to predict that 10,000 will soon be known visually, while a vastly greater number will be revealed photographically. Already the camera has shown quite a number beyond the reach of the Lick or the Rosse telescope. At Leander McCormick Observatory, Virginia, Prof. Stone has discovered several hundred, mostly south of the equator. Prof. Barnard has found 150, and at the Lick Observatory, with the 12-inch glass, he detected five in a field the size of the moon. A few months ago Mr. Burnham, of Lick Observatory, discovered with the 36-inch telescope eighteen nebulae in a space only about one eighth the apparent size of the moon. They are very faint and exceedingly small, and if seen at all with other telescopes would be mistaken for small stars. The approximate mean place of the group is right ascension 18^h 38^m, declination north 56° 20'. In the search for these objects, a comet is occasionally discovered, as was the case in November last when a comet, which proved to be of short period, was found by Dr. Swift, of Warner Observatory.

Star Catalogues.—Carleton College Observatory, Northfield, Minn., has recently issued, as Vol. I of its publications, a catalogue of 644 comparison stars observed with the Repsold Meridian Circle by Prof. H. C. Wilson during 1887-'89. The Washburn Observatory, Madison, Wis., has lately sent out its Vol. VI, Parts I and II. Part II is devoted to observations of double stars by Prof. George C. Comstock. It gives the results of the remeasurements of all double stars discovered there by Burnham and others. The Greenwich Ten-Year Catalogue of 4,059 stars for the epoch of 1880, deduced

from observations made from 1877 to 1886, under the direction of the Astronomer Royal, W. H. M. Christie, has been issued. It is valuable for the working astronomer. A list of 10,792 stars, including those down to the tenth magnitude, observed between 1857 and 1878, has been recently published by the Brussels Observatory. Vol. XI of the Argentine National Observatory, being a separate annual catalogue, already combined in the gigantic catalogue, Vol. XIV, of Dr. B. A. Gould, has lately been issued. Two more numbers, under the supervision of his successor, Dr. J. M. Thome, which will complete the series, are to be published. The second Melbourne General Catalogue, of 1,211 stars, has just appeared. They are mostly southern stars. Baron von Engelhardt has recently sent out from his private observatory at Dresden, Germany, a book of 272 pages, devoted to observations of asteroids, comets, double stars, and the nebulae. Two hundred and fifty pages are taken up by a catalogue of 203 nebulae, which he has micrometrically examined. It is the most concisely arranged catalogue ever issued from any observatory.

Solar Parallax.—Prof. William Harkness, member of the Transit of Venus Commission, to whom was assigned the task of determining the solar parallax from the photographs taken with the horizontal photo-heliograph of about 40-foot focus during the transit of Venus in 1882, reports to Captain R. L. Phythian, Superintendent of the Naval Observatory, Washington, as follows: "From position angles measured on 1,426 photographs, parallax = 8.772" \pm 0.0496. From distances measured on 1,475, parallax = 8.847" \pm 0.0122. Weighted mean, both from position angles and distances, parallax = 8.842" \pm 0.0188. With a parallax = 8.842" \pm 0.0188, and with 3,963-296 miles for the equatorial radius of the earth, the mean distance from the earth to the sun is 92,455,000 miles, with a probable error of only 123,400 miles." Speaking generally, therefore, one can not be far wrong in calling the earth's distance from the sun 92,500,000 miles, with a light interval of 498 seconds = 8^m 18^s.

Telescopes.—The 28-inch refractor, only 28-foot focus, for Greenwich Observatory, being made by Sir Howard Grubb, has been delayed in its finishing in order to expedite the completion of the 13-inch photographic telescopes for photographing the heavens, but is well advanced, and will soon be mounted on the same pier on which the 12 $\frac{1}{2}$ -inch telescope has for many years done service at this observatory. Alvan Clark's Sons have closed the contract for the mammoth object-glass of the telescope destined for the University of Southern California, whose observatory is to be on the summit of Wilson's Peak, at a height of 6,250 feet, 13 miles north of Los Angeles. The disks, 41 $\frac{1}{2}$ inches in diameter, have both been received from M. Mantois, of Paris, and the work of grinding begun. The completed lens will have a diameter of 40 inches, and will weigh about 400 pounds. Although the objective is to be 4 inches larger than the Lick glass, the focal length will be the same—56 feet. It would seem that in this telescope will be reached the limit where the gain of light by the augmentation of size must be nearly or quite counterbalanced by the loss by absorption in

passing through the increased thickness. Two years will probably be required for the grinding, polishing, and final testing of this huge lens.

Dr. E. H. Williams, of Philadelphia, has generously given \$15,000 for the purchase of a refracting telescope of 16 inches aperture for the observatory of Carleton College, Northfield, Minn. The objective is being made by J. A. Brashear, of Allegheny, Pa., and the equatorial mounting by Warner & Swasey, of Cleveland, Ohio, who two years ago constructed a steel dome for that observatory. This firm has contracts for the construction of two steel domes for the new Naval Observatory, Washington, D. C., one of 45 and the other of 26½ feet diameter. The 18½-inch telescope and other astronomical instruments formerly belonging to the Chicago Astronomical Society have been removed to the Evanston University, and a new observatory has been built on its grounds at a cost of \$75,000, a gift of James B. Hobbs, Esq. Prof. G. W. Hough is director.

The University of Denver has received from the Hon. H. B. Chamberlain, of that city, the gift of an observatory, with generous equipment, costing (buildings and instruments) \$50,000. The dome of the observatory is of iron, and is built on the Hough system. The object-glass, 20 inches in diameter and adaptable to photography, is by Alvan Clark's Sons, and its mounting by Fauth & Co. Its director is Herbert A. Howe, Sc. D.

William Smith, of Geneva, N. Y., has built a commodious observatory, and also a dwelling for its director, in the outskirts of that village. The former is furnished with a 10½-inch refractor, transit circle, sidereal and mean time clocks, and a Brashear spectroscope. The construction of the steel dome and the mountings of the telescope and transit circle were by Warner & Swasey. William R. Brooks, the discoverer of many comets, is its director.

Many smaller telescopes, which a few years ago would have been considered large, are being constructed in the manufactories of the five principal telescope makers of the world, viz., the Clarks, Brashear, Grubb, Calver, and Cook.

Telescopes for Photography.—Prof. Barnard, of Lick Observatory, in a letter to the Royal Astronomical Society, published in the March number of the "Notices," says: "The photographic telescopes now being made, except the Bruce telescope, will give us but little information about the structure of the Milky Way, as the field of view will be too small to show the cloud forms. What is wanted is a photographic chart of the Milky Way made with a short-focus portrait lens of the largest attainable aperture—one that will cover at least 100 square degrees." The writer has received from him two photographs of the great nebula in Andromeda and two of the Milky Way, the former showing 64,000 stars, the latter stars innumerable, and its cloud forms perfectly and beautifully delineated, the work of a camera bearing a 6-inch objective. These cloud forms are wonderfully true to nature, and this is the first time they have been truly revealed by photography or by any other method.

Comets.—Since the last report the following-named comets have been discovered: Comet *f* 1889 was detected at Warner Observatory, Roch-

ester, N. Y., by Dr. Lewis Swift, on Nov. 16. From its small inclination, it was immediately suspected to be a periodic—a fact confirmed by computation from subsequent observations. The subjoined elliptic elements, computed by Karl Zeller, differ but little from those made by others: Time of perihelion passage, Nov. 29-66411 Berlin mean time; longitude of perihelion, $40^{\circ} 55' 52.8''$; longitude of node, $331^{\circ} 26' 40.1''$; inclination, $10^{\circ} 3' 21.1''$; perihelion distance, 1.19; period, 6.91 years.

It is probably the faintest of all the periodic comets, D'Arrest's not excepted.

Comet *g* 1889 was discovered by M. Borelly at Marseilles, France, on Dec. 12. Though it was faint at discovery, its brightness increased to 23.52 on Jan. 24, 1890, or to more than twenty-three and a half times its brilliancy at discovery. Its motion was rapidly south, and it was soon lost to view from northern observatories. The following elements were computed by A. Berberich: Time of perihelion passage, 1890, Jan. 26-5143 Berlin mean time; node to perihelion, $200^{\circ} 1' 52''$; longitude of node, $8^{\circ} 17' 82''$; inclination, $56^{\circ} 43' 48''$; perihelion distance, 0.26926.

Comet *a* 1890 was found by Prof. W. R. Brooks, Director of Smith Observatory, Geneva, N. Y., on March 19. It was faint when discovered, but in June had attained a brightness five and a half times that of March 19. At this writing (Oct. 1) its brightness = 0.55, and it is running well with the ephemeris computed from the following elements by Prof. O. C. Wendell, of Harvard College Observatory: Time, 1890, June 1-15896 Greenwich mean time; longitude of perihelion, $29^{\circ} 2' 15.5''$; from node to perihelion, $320^{\circ} 18' 55.6''$; inclination, $120^{\circ} 30' 56.5''$; perihelion distance, 1.9091.

Comet *b* 1890 was discovered, on July 19, by M. Coggia, of Marseilles Observatory, France. Though telescopic, it must have been rather bright at its perihelion passage, as it was of fair brilliancy at discovery, but grew fainter so rapidly that in twenty days it had diminished one half. The elements of its orbit, as computed by F. Bidschof, are: Perihelion passage, 1890, July 8-730, Berlin mean time; from node to perihelion, $85^{\circ} 58' 5''$; longitude of node, $14^{\circ} 25' 6''$; inclination, $63^{\circ} 14' 6''$; perihelion distance, 0.7661.

Comet *c* 1890 owes its discovery to William F. Denning, of Bristol, England, on July 23. It was both faint and small, with motion almost exactly south. Gradually increasing in brightness, it reached 2.21 on Sept. 2. These are its elements, according to Berberich: Time of perihelion passage, 1890, Sept. 24-6489, Berlin mean time; from node to perihelion, $161^{\circ} 22' 24.9''$; longitude of node, $98^{\circ} 47' 39.7''$; inclination, $99^{\circ} 13' 38.7''$; perihelion distance, 1.2838.

Comet *d* 1890 was discovered on Oct. 6 by Barnard in right ascension $19^{\text{h}} 13^{\text{m}} 30^{\text{s}}$, declination $26^{\circ} 7' 30''$. Subsequent observations proved it to be D'Arrest's periodic comet, which astronomers for several months had been searching for.

Denning's periodic comet of 1881, which was expected to return to perihelion during the early months of 1890, was not found. Search for it was almost useless, as the geocentric positions of both the comet and the sun were so nearly alike that when near enough to have been other-

wise visible the comet was constantly immersed in the sun's rays. No doubt is felt about its periodicity, though it has been observed at only one return. At its next appearance, in 1899, it will be better placed for observation.

The following periodic comets were expected at perihelia in 1890, but up to Oct. 1 not one of the three has been found: Barnard's 1884 II, Brorsen's of 1846, and Coggia's of 1873. The elements of the first of these strongly resemble those of De Vico's comet of 1844 I, and also those of Finlay's comet 1886 VII. Brorsen's was diligently sought by many astronomers with large telescopes, but without success. It was seen in 1846, 1857, 1868, 1873, and 1879, but eluded observation in 1851, 1862, 1884, and 1889. At its recent return it was well situated for observation. Coggia's, which is supposed to be identical with Pons's comet of Feb. 23, 1818, was not searched for. It has not been seen since 1873, though a period of five and a half years has been assigned to it.

Barnard's comet e 1888 = Comet I 1889, is at this writing still visible as an exceedingly faint and small object, even with the Lick glass of a yard in diameter. It was first found on Sept. 2, 1888, and has, therefore, a visibility of more than two years' duration, the longest of any comet on record.

Identity of Periodic Comets.—In the "Astronomische Nachrichten," No. 2,964, M. Schulhof, of Paris, has an instructive paper entitled "Notes on Some Comets of Short Period." It discusses the probable identity of several pairs of periodic comets of short period, and also the possible identity of several, as Finlay 1886 VII and De Vico 1884, Denning 1881 V and Pigott 1783, Blanpain 1819 and Grischaw 1743 I, Coggia 1873 VII and Pons 1818 I, and others. Prof. Seth C. Chandler, in "Gould's Astronomical Journal," Nos. 204 and 205, has proved to the satisfaction of a majority of astronomers that Comet V, 1889 (Brooks) is identical with the long-lost Lexell comet of 1770; but M. Schulhof regards as more probable the identity of the Lexell comet with Comet 1886 VII (Finlay's). When it is remembered that the orbit of Lexell's comet, by its near approach to Jupiter in 1767, was changed from a parabola to an ellipse with a short perihelion distance, thus rendering it visible, and that in 1770 it was again perturbed and made invisible by a still closer approach to that planet, which caused an increase of perihelion distance, and, also, that Jupiter has several times exerted his powerful attraction in changing its orbit, the question rises whether there are none among the large number of known comets of short period identical with this lost one.

It is highly improbable that of all the short-period comets, or even a tithe of them, are or ever will be known to astronomers. The facts of the division of Biela's comet into two perfectly formed comets which for at least six and a half years maintained their cometary character and individuality, the separation of the great comet of 1882, the recent division and subdivision of Brooks's comet of 1889, and, furthermore, the remembrance that this process has been going on since the solar system has existed, filling it with subdivided comets too faint to be detected by any known optical means, carry us into a

realm of the wildest speculation as to the number of these bodies in the solar system.

Synchronical Revolution and Rotation of the Planet Mercury.—Signor Schiaparelli, of Milan Observatory, Italy, has given astronomers a surprise somewhat akin to the discovery of Neptune and of the satellites of Mars. He announces, as the result of a discussion of one hundred and fifty drawings of Mercury, covering seven years of observation, that that planet completes but one rotation during a revolution around the sun, exactly as the moon rotates on her axis once while she revolves round the earth. He arrives at the conclusion that Mercury completes a rotation on its axis in 87,969 days, which is the exact time of his period of revolution around the sun. If his deductions be true, it follows that one Mercurial hemisphere is constantly bathed in sunlight, while the other is enveloped in perpetual darkness. Observations of this planet are always unreliable and unsatisfactory and must always be made under difficulties, because he is ever in direct sunlight or in strong twilight (in the latter case at a low altitude), and hence the conclusions of this distinguished astronomer require strong confirmation from other observers. Were his assumption true, it does not follow that an exact half of the planet is forever devoid of sunlight, as, owing to his small size compared with that of the sun and also to his nearness to that luminary, there will be exposed to his direct beams in excess of one half of his surface a belt nearly twenty miles in width entirely around the planet, whose breadth must be still further increased by refraction from an undoubtedly existing atmosphere, and (because of the great eccentricity of his orbit) by greatly extended librations, and from these, and perhaps other causes, it may be that not much over one fourth of the planet is in unending darkness. The same astronomer claims to possess evidence to warrant the declaration that Venus also rotates on her axis but once during a revolution around the sun, or in 224.7 days.

Oxygen in the Sun.—Since the invention of the spectroscope, the presence of oxygen in the sun has been denied by many spectroscopists, while others have testified to having obtained unmistakable evidences of it. By a series of observations of the spectrum of an electric light placed on the Eiffel Tower in Paris, as examined from his observatory at Meudon, M. Jansen has confirmed the conclusion he drew from his observations made in 1885, that the supposed oxygen lines in the solar spectrum are due wholly to the influence of our own atmosphere. This, if true, is of great importance; for while more than half of the earth and its atmosphere consists of oxygen, it is indeed remarkable that this should be entirely absent from the sun in which twenty or more other telluric elements exist, as proved by spectrum analysis. Its absence from that body affords a strong argument against the theory of the earth's having originally been evolved from the sun.

Sun-Spots.—In 1889 the sun was free from spots for 211 days, the longest spotless period being from Oct. 23 to Dec. 11. There were also eight others of more than two weeks' duration. The mean daily area, however, for the latter half of the year was nearly twice as great as for the

earlier half. While the mean distance of spots from the equator was $5^{\circ}46'$ in the first six months, it was $14^{\circ}72'$ for the last six. A combination of these two facts indicates the middle of the year 1889 as a well-defined date of sun-spot minimum.

Asteroids.—The annexed table shows the new asteroids of the year:

Number.	Date.	Discoverer.
288.....	Feb. 24, 1890.....	Luther.
289.....	March 10, 1890.....	Charlois.
290.....	March 23, 1890.....	Palisa.
291.....	April 25, 1890.....	Palisa.
292.....	April 25, 1890.....	Palisa.
293.....	May 20, 1890.....	Charlois.
294.....	July 10, 1890.....	Charlois.
295.....	Aug. 17, 1890.....	Palisa.
296.....	Aug. 19, 1890.....	Charlois.
297.....	Sept. 9, 1890.....	Charlois.
298.....	Sept. 9, 1890.....	Charlois.
299.....	Oct. 6, 1890.....	Palisa.

No. 282 has been named Clorinde; 286, Iclea; 287, Nephthys; and 288, Glauke.

Mars.—At the opposition of Mars in 1890 his altitude was so low for northern observation as to render abortive every effort to improve our knowledge of this planet. In another respect it was also unfavorable, viz., the earth's aphelion and Mars's perihelion were not coincident with his opposition. The duplication of his canals, put forward so confidently by their alleged discoverer, Schiaparelli, was not visible with the 36-inch refractor of Lick Observatory, nor with other large telescopes, and their existence is not generally credited among astronomers. At Mount Wilson, where the great observatory for the 40-inch lens is to be erected, seven photographs of the planet were taken on April 9 between $22^{\text{h}} 56^{\text{m}}$ and $23^{\text{h}} 41^{\text{m}}$ Greenwich mean time; and seven more on April 10, between $23^{\text{h}} 20^{\text{m}}$ and $23^{\text{h}} 32^{\text{m}}$, the same face of the planet being presented to the earth in both cases. Distinct and identifiable spots and markings are shown in all the fourteen pictures, but on those of the latter date a considerable accession to the white spot surrounding the south pole is shown. It is, says Prof. W. H. Pickering, in Payne's "Sidereal Messenger" for June, 1890, surprisingly large, amounting to about 25,000,000 square miles. He makes no mention of the duplication of the planet's canals having been seen on any of the plates.

Saturn.—The unique observation of an eclipse of the satellite Japetus by the shadows of the globe, the crape ring, and the bright ring of Saturn was made with the 12-inch telescope of Lick Observatory by Barnard on Nov. 1, 1889. The phenomenon was expected, and he was prepared for the work, with, fortunately, a clear sky. The satellite was first seen to emerge from the shadow of the globe, pass into the semi-shadow of the crape ring, and finally disappear in the shadow of the inner bright ring, when approaching daylight prevented further observation. The diminution of brightness of the satellite while in the shadow of the crape or gauze ring was easily apparent, and confirmed the latter's translucency, which fact has long been received. But the shadow of the bright ring was as dense as any opaque body could cast, as much so, indeed, as was that of the planet itself, and this tends to disprove the theory that it is made up of an infinite number of satellites. And the fact that

both edges of both the bright rings are as clean cut and as sharply defined as the limb of the planet is another argument against the satellite hypothesis. Mr. Lockyer claims to have obtained some photographic evidence of the existence of bright lines in the spectrum of Saturn, but Dr. Huggins saw no lines save those given by ordinary sunlight.

Jupiter and his Satellites.—The great red spot, floating, probably, in the atmosphere of Jupiter, which for a dozen years has been under observation, is still visible, though from the planet's low altitude at this year's opposition, it is an extremely difficult object even with the largest telescopes. Spots of several varieties—pale-red, white, and black—appear on his disk. Recently a black one has made its appearance on his southern equatorial belt, which, like the "great red spot," has a motion of translation in such direction and at such rate that one has occulted the other. A. Stanley Williams, who has directed attention to this interesting phenomenon, calculates that the black spot, if it remains visible and progresses uniformly, will be in conjunction with the following (east) end of the red spot on July 29, with the center on Aug. 28, and with the preceding (west) end on Sept. 27, thus requiring two months to pass over or under the red spot.

Two of his satellites—the third occasionally, the fourth very rarely—traverse Jupiter's disk as black objects. A striking instance, observed at the Warner Observatory, occurred on the evening of July 21, 1890, when the third satellite and its shadow were both on his disk simultaneously, the satellite being, if possible, more densely black than its shadow. It usually traverses as an object with brightness so nearly equal that of the planet as to be hardly discernible. No satisfactory explanation of this phenomenon has been given, as the sun shines alike on both disks, and, if the reflective powers of both planet and satellite are the same, as they generally seem to be, the satellite while on the planet's disk ought not to be visible except when superimposed on one of his belts.

Zodiacal Light.—In No. 2,976 of the "Astronomische Nachrichten," Prof. Arthur Searle, of Harvard College Observatory, has a paper on this theme, it being a summary of what is to appear in *extenso* in Vol. XIX, Part II, of the "Annals" of the observatory. It contains the records of this phenomenon for the past fifty years. The three main topics to which attention is called are: 1, the permanence of the ordinary western zodiacal light; 2, the normal distribution of light in the Zodiac and its vicinity, which evidently affects all observations of the fainter portions at greater elongation; 3, the phenomenon of a feeble maximum of light in opposition to the sun, commonly known as the *Gegenschein*. A daily record kept since 1877 shows that the zodiacal light must be considered as a permanent phenomenon, subject to only slight variations apart from atmospheric causes. This concurs with the writer's conclusions, resulting from many years of observation, that the oft-repeated statement of wavy motion seen in the zodiacal light is without foundation. The same applies also to the flickering motion, similar to the "merry dancers" in the Aurora Borealis, imag-

ined in the tails of comets. Prof. Searle inclines to the belief that the light is sometimes variable, but asserts that the delicacy of the work requires independent observation by different astronomers made simultaneously, under like atmospheric conditions, and kept up for several years. Of the *Gegenschein*, of which a comparatively large number of observations have been obtained, he says, "All are confessedly uncertain." Though the writer has never seen the *Gegenschein* at the Warner Observatory, yet he enjoyed at the Lick, in January, 1889, several unmistakable views of it. It appeared as a circular luminous patch of extreme faintness, about 5° or 6° in diameter, exactly opposite the sun, having a daily progressive motion equal to the sun's apparent motion in the ecliptic.

The Sun's Motion.—"Gould's Astronomical Journal" has an instructive paper by Prof. Lewis Boss, Director of Dudley Observatory, Albany, N. Y., on the proper motions of 295 stars and his conclusions therefrom regarding the direction of the sun's motion in space. Of all this number of stars, only 49 have been previously used by others in a similar investigation, and, therefore, his determinations are independent of the results obtained by others. The stars were divided into two groups according to magnitude, the mean magnitude of the first group 6.6 , and of the second 8.6 . He found the mean maximum motion of the sun, as viewed from the mean distance of both groups of stars, to be $13.06''$ in one hundred years toward a point nearly 5° north of west of Alpha Lyrae, right ascension 280° , declination $+40^{\circ}$. Sir William Herschel's point was $260^{\circ} 34' + 26^{\circ} 17'$. The mean place of four determinations by Argelander, Luhn-dahl, Struve, and Galloway is right ascension $258^{\circ} + 28^{\circ} 7'$. These results are not in very near accord, yet, considering the intricate nature of the problem, the agreement is, perhaps, as close as could be expected. It is undoubtedly true that the apparent motion of these stars is partly due to a relative motion of our sun, and, of course, of the entire solar system toward the point named, at the rate of 10 or 15 miles a second; but whether this latter movement is curvilinear or rectilinear, posterity, ages hence, must determine.

Orbits of Binary Stars.—Mr. Gore, of England, has recently published an orbit of Sirius, and finds a period of 58.5 years, and that, with Guylden's parallax ($= 0.193''$), the sum of the masses of the star and its companion is 26.25 times that of our sun, and the mean distance of the components from each other 44.5 times that of the earth from the sun, or about one and a half times the solar distance of the planet Neptune. The same astronomer announces that, from recent measures, the binary star Struve 228, has described about 120° of its apparent orbit since its discovery in 1829. A computation of its orbit gives a period of 88.73 years, and its time of peri-astral passage as A. D. 1906. Its present distance is almost exactly one second, but at peri-astron the components will probably be separated by less than $0.2''$. It is a very interesting binary, which in a few years but few telescopes will be able to divide. Its position is right ascension $2^{\text{h}} 6^{\text{m}} 59^{\text{s}}$, declination $+46^{\circ} 58' 4''$. The magnitudes of the components are 6.7 and

7.6 . He also has deduced the provisional elements of the orbit of Delta Cygni, and makes its period 376.659 years, its peri-astral passage A. D. 1914, and its present distance $2.39''$. For the binary Gamma Coronæ Australis, E. B. Powell has calculated an orbit, and finds a period of 93.338 years; peri-astral passage A. D. 1885, $.122''$; distance, $2.034''$, with an annual retrograde motion $= 3^{\circ} 51' 25''$.

Astro-Photography.—A beautiful photograph of Jupiter was taken on July 12, 1890, by Prof. W. H. Pickering at his temporary mountain observatory on Wilson's Peak, California. Its scale is $\frac{1}{100000000}$, or $1.65'' = 1$ millimetre magnified (at 29 c.m. distance) 450 times. The 13-inch telescope was used. The exposure, only 87 seconds long, shows his system of belts with surprising distinctness. At the same place, on Feb. 7, 1890, the planet Saturn was exposed for $6^{\text{m}} 16^{\text{s}}$, scale $\frac{1}{100000000}$, or $0.84'' = 1$ millimetre magnified 770 times. Both bright rings and the division between them, also the dark ring and the equatorial belts, are plainly visible. A remarkable photograph of what he calls "an inky black hole" in the Milky Way (coal sack) has been made by Prof. Barnard at Lick Observatory. This study is in Sagittarius right ascension $17^{\text{h}} 56^{\text{m}}$, declination south 28° . Much of its inky blackness is undoubtedly due to contrast with its surroundings, which are very bright from the mingled light of many thousands of telescopic stars. The 16-inch objective of the Warner Observatory shows but five stars in it, four of these needing closest scrutiny, yet the photograph shows myriads of stars, very few of which are visible in the great 36-inch telescope. The exposure was continued for $3^{\text{h}} 7^{\text{m}}$. The instrument employed was not a telescope, but a portrait camera, the lens having an aperture of 5.9 inches. It was mounted temporarily on a rough wooden box and strapped to the tube of the 64-inch equatorial telescope, which latter was used simply as a pointer. Though driven by clock-work, it was necessary to keep it exactly directed on a star by slow-motion hand-rolls, one moving it when so required in right ascension, the other in declination. These vacuities are thickly interspersed along the Milky Way, and Barnard's system of photography will probably reveal countless stars in them all. In observing this hole or cavity Sir William Herschel claimed that he had sounded the depths of the Milky Way with his great telescope, and had penetrated to the dark, starless regions beyond.

W. E. Wilson, of Ireland, has invented a method of recording transits by photography, whereby personal errors are eliminated. A sensitized plate is placed in the focus of a transit instrument, and if a star traverse it uninterruptedly, a continuous black line will be found on the development of the plate, thus —————; but if an up-and-down motion be given it by the electric clock, the result is a broken line of this sort — — — — —, each break being equal to a sidereal second. With only a rough apparatus the inventor found the recorded time of transit correct to within one fourth of a second.

Andromeda Nebula.—Isaac Roberts has published in "Himmel und Erde," and reproduced in the "Sideral Messenger" for January, 1890, a magnificent photograph of the nebula in An-

dromeda. Of course it is true to nature; but when compared with drawings made at the telescope, it exhibits scarcely a recognizable feature. The center of the nebula, which is very much elongated, is surrounded with two rings somewhat resembling those of Saturn; and we now know the nature and cause of the dark channels running through it first noticed by Bond. These are the dark spaces between the rings, visible

the stars in its vicinity marred the main feature of the nebula proper.

Orion Nebula.—The photographic extent of this nebula far exceeds that of any other in the heavens, and much interest attaches to it therefrom. In the fine photograph of it made by Mr. Common, of England, it appears in many respects as visually seen with the telescope. As his design was to photograph the nebula and not

its vicinage, the exposure was limited. The photograph of this nebula by Prof. W. H. Pickering at Wilson's Peak, which includes the surrounding regions, reveals streams of nebulous matter astonishing in extent. He says (*"Sideral Messenger,"* January, 1890): "We have recently considerably extended the nebulosity about Theta by giving longer exposures and using a quicker lens. The connection with *c* is now well marked, while the long nebulous streak extending southward from Zeta is broadened and joins *c* upon the other side, connecting the sword-handle with the belt. This extension is of much greater area than the other two nebulae combined. Its northern portion as far as $3^{\circ} 30'$ south declension is fairly conspicuous, and makes an excellent test object, not of the instrument or the steadiness, but of the clearness of the air and the blackness of the sky. Owing to recent advances in stellar photography, this matter of sky illumination has assumed considerable importance, and it is very doubtful if any of the fainter nebulous extensions here described can be photographed at any observatory located in or near a large city. This is due, undoubtedly in part to the gas, but chiefly to the electric lights which illuminate the



NEBULA IN ANDROMEDA.

only photographically. The nebula proper, the rings, the spaces between, and its surroundings are dotted with thousands of stars, as the engraving clearly shows, though, it must be remembered, it is designed to show details of the nebula itself rather than the stars in its neighborhood, which would have required a much more prolonged exposure. Prof. Barnard has also successfully photographed this nebula, or rather its surroundings, as the over-exposure ($4^h 18^m$) to attain

slight atmospheric haze and aqueous vapor. A large spiral nebula, which starts from between Omega and Psi, is seen on the plate, passing four degrees north of Zeta, extending to Beta, thence north to Eta, with an outside stream lying nearly north and south, and preceding Beta about four degrees. Another stream, lying nearly east and west, precedes Eta about the same amount. This nebula is about $15''$ in length by nearly the same breadth, and surrounds a cluster of bright stars,

including the belt and sword-handle. This immense nebula is shown by three different exposures, and is very distinctly marked." This extraordinary photograph was made with a portrait lens of 26 inches aperture and 8·6 inches focus, with an exposure of three hours.

Bright Lines in Stellar Spectra.—As a rule, the stars give spectra crossed by dark lines, the same that our sun exhibits, but there are a few exceptions. As spectroscopic investigation is extended the number giving bright lines will no doubt be largely increased. Following are a few notable examples, mostly variables: Gamina Cassiopeiæ, R Andromeda, Beta Lyrae, 17 Cygni, Eta Argus, R Hydra, Chi Cygni, Theta Muscæ, Phi Persei and Delta, and Mu Centauri. At the Dun Echt Observatory, Scotland, 70 bright lines were seen in the spectrum of 71 Cygni and 237 in that of Beta Lyrae. The planetary nebulae show by their spectra that they are closely allied to stars with bright lines.

Draper Memorial Fund.—The fourth annual report of the photographic study of stellar spectra at Harvard College Observatory, by the aid of the Henry Draper Memorial fund, deals with subjects of absorbing interest to astronomers. An expedition, directed by Messrs. S. J. and M. H. Bailey, erected the Bache telescope on a mountain 6,500 feet high in Peru, South America. The weather, for the first six months, was satisfactory, and about 1,300 photographs were obtained of different portions of the sky south of 25° of south declination, using exposures of ten minutes. Two sets of plates were taken, the center in one coinciding with the corners of the other, thus causing every star to appear on at least two plates. Excellent views were obtained of the more remarkable southern objects, as the nebula surrounding Eta Argus, the trifold nebula, the cluster Omega Centauri, χ Doradus, and Kappa Crucis. At the beginning of the rainy season the site was abandoned, the work to be located elsewhere. Mrs. Draper has provided another telescope for Harvard College, replacing that sent to Peru, for the photographing of objects whose stellar spectra are too faint to be studied with other instruments, particularly those of the fourth type, although the stars are red. The number of photographs taken by the Bache telescope is 4,595; with the Draper 11-inch, 2,510; with the Draper 8-inch, 713; and with the 15-inch, 65; making a total of 7,883.

Variable Stars.—These bodies, as a rule, give peculiar spectra, and occasionally one is found whose variability has not been previously known, but which yields a spectrum belonging to one of the four types into which they are classified. A recent examination of one of the Harvard College negatives led to the discovery that the *Durchmusterung* star + 48° 2042 gives a spectrum of bright lines resembling Omicron Ceti and other long-period variables. Nova Orionis, discovered in 1885 by Mr. Gore, now known as U. Orionis, yields a bright-line spectrum, and is a variable of long period, changing in 173½ days from 5½ to 12½ magnitude. Its place is right ascension 5^h 48^m 17^s, declination north, 20° 9' 18". On March 26, 1890, Rev. T. E. Espin observed bright lines in both Theta 1 and 2 Orionis. Great importance is attached to

these observations by astronomers, for they indisputably prove that some of the so-called stars are not stars at all, but nebulae greatly condensed, which in future æons will arrive at the state of ordinary stars or suns, when the lines in their spectra will turn from bright to dark. Mr. Espin publishes in "Astronomische Nachrichten," No. 2,963, a list of forty-three stars like those mentioned above. It is a continuation of former lists, and begins with the tabular number 387. The variable star discovered in 1888 by Prof. Paul, of the Naval Observatory, Washington, D. C., proves to be the shortest-period variable yet discovered. It varies from 6 to 7·3 magnitude, going through all its changes, according to Mr. Chandler, in the astonishingly short time of 3^h 20^m. The star's place for 1875·0 is right ascension 9^h 26^m 50^s, declination - 28° 4' 7", and it is known as 12 Antile.

Astro-Spectro Photography.—One of the most unexpected and wonderful disclosures of the spectroscope and photography is the periodic doubling of the lines in the spectra of Zeta Ursæ Majoris, Beta Auriga, δ Ophiuchi, and Alpha Virginis. In plates taken at Harvard College Observatory on March 29, May 17, and Aug. 27 and 28, 1889, the K line in Zeta Ursæ (Mizar, or the second from the end of the handle of the Great Dipper) is clearly seen double. Sometimes the line would appear distinctly double, then unmistakably single, and, again, as a hazy line. A close scrutiny of all the plates showed that the line is double at intervals of fifty-two days, beginning March 27, 1887, and that for several days before and after these periods it is hazy. This line of the star, being of less width than the hydrogen lines, is better adapted for the detection of duplicity. Through common telescopes this star is an interesting double, but the inference from this periodical duplication is that it is triplex, the nearest component being so close as to require for its discovery telescopic magnification far beyond that which the capacity of the most powerful glass will furnish, or the atmosphere allow. The brothers Pickering are of opinion that each component is equal to the other in mass and intrinsic brightness, and that the period of revolution is about one hundred and four days. If the latter assumption is true, the distance between their centers can not be greatly more nor greatly less than that of the planet Mercury from the sun. The distance between the components of Beta Auriga appears much less, as it completes a revolution in four days, the line being doubled every two days, corresponding to a distance between their centers of only 8,000,000 miles, and an orbital velocity of 150 miles a second. "So enormous are their motions," says Prof. Pickering, "that the change in the spectrum is sometimes perceptible on successive plates, and is very marked in the course of an evening."

Each star, say of Beta Auriga, gives a certain number of lines, one being the K line, but if the star be not in motion in the line of sight this K line of each component star will be so close as to be inseparable spectro-photographically, though it might appear hazy; but if the plane of their orbits be coincident, or nearly so, with our line of sight, and, while revolving round the center of gravity of the system, one shall be

moving toward and the other from us, the K line in the spectrum of the former will be displaced toward the violet, and in the latter in the direction of the red, thus causing the line on the plate to be seen double. Of course, in part of their orbital revolutions (at their conjunctions) the two stars will be moving laterally and the line will appear single, but at elongations when moving toward or from us will be seen double. It is this which causes the periodical doubling of the lines, and proves that, though telescopically single, the star is spectrographically double.

It has long been known that the waves of light at the violet end of the spectrum are more numerous and shorter, and more refrangible, than those at the red end. It follows, therefore, that if a luminous body is approaching us more waves will be crowded into a given space, and they will be shorter than if it is at rest, and all the lines in its spectrum will be slightly moved toward the violet; while, on the contrary, if it be moving from us, the waves will be longer and fewer, and the lines will be displaced toward the red. An ingenious application of this principle to determine the period of the sun's rotation, has been often and successfully tried, confirmatory of the assumed correctness of the period assigned by observation of his spots. The two poles of the sun, by virtue of the sun's rotation, have no motion whatever toward or from the earth, and therefore the lines in the polar spectra ought not to show any displacement, and do not. If the spectroscope be pointed to the east limb of the sun which is approaching us, all the lines (save, of course, the air lines) will be displaced toward the violet end of the spectrum. If it be turned toward the west limb, which by rotation is moving from the earth, all the solar lines from that region will show displacement toward the red.

Prof. James E. Keeler, of the Lick Observatory, has determined the rate of motion of several planetary nebulae in our line of sight. The brightest nebular line, the origin of which is unknown, was used for comparison. Of the ten examined, two are approaching the earth, 17.2 and 31.0, and two receding 16.8 and 38.4 miles a second respectively. These deductions are considered by astronomers of great importance. His paper is published in No. 11 of the publications of the Astronomical Society of the Pacific.

Orbit of Algol.—Astronomers have long entertained the opinion that the variation in the brightness of Algol is due to periodic transits of a dark companion across, or partly across, the face of the bright star as seen from the earth. Prof. Vogel, of the Potsdam Observatory, Prussia, acting on the suggestion of Prof. Pickering, who thought its orbit might be determined by photo-spectroscopic observation, made six photographs of the spectrum of Algol, three before minimum periods and three after, there being an interval of several months between them. The three taken before minimum show the lines decidedly displaced toward the red end of the spectrum, while the others are moved in the direction of the violet. From careful measurements of the plates he makes the motion and recession of the star to be about equal, amounting to about 27 miles a second. Assuming circular orbits in a

plane parallel to our line of sight and a central transit, he derives the following elements for the system: Diameter of Algol, 1,074,100 miles; diameter of its companion, 840,000 miles; distance of centers, 3,269,000 miles; velocity of Algol per second, 27 miles; velocity of its companion per second, 56 miles; translation of Algol system toward sun per second, 25 miles; mass of Algol $\text{sun} = 1 = \frac{1}{3}$; mass of its companion $\text{sun} = 1 = \frac{1}{3}$.

Dark Stars.—From what has been said, the following three conclusions are deducible: (a) If a bright star give a system of lines neither double nor hazy, though showing periodic spectral displacement, it is manifest that it is a double, with one component bright and the other dark, the former producing the spectrum and the latter causing it alternately to approach and recede from the earth by the revolution of each around the center of gravity of the system, in a plane that passes through the earth or, at least, not perpendicular to the line of sight. (b) Should a star be periodically displaced and also darkened, it shows that the dark companion star transits the bright one, and it would be classed as a variable like Algol and many others of that type. (c) If a line from the spectrum of a star be periodically doubled, it follows that both components are bright and produce the same spectrum. Prof. Vogel does not regard the companion of Algol as absolutely dark, though from want of intrinsic brightness it is incapable of producing a spectrum which, were its albedo $\frac{1}{10}$ of that of Algol, it would do.

Alpha Virginis (Spica) appears as a photo-spectrographic variable of short period, the companion being a dark star or, at least, one too faint to form a visible spectrum. Therefore, the only inference of its duplicity is the periodic variation of brilliancy and the movement of the lines in the spectrum of the bright star only, instead of opposite separations of the lines in each star, as in the case of Zeta Ursæ, etc. The period of Spica is about four days, with an orbital velocity of 56 miles a second.

Benefactions.—Miss C. W. Bruce, of New York, who recently gave \$50,000 to Harvard College Observatory for the purchase and maintenance of a photographic telescope, has given \$6,000 additional for the promotion of original astronomical research, placing it in the hands of Prof. Pickering for disbursement, who is to bestow it, in sums not exceeding \$500, upon such applicants, individuals or institutions, as have met certain required conditions. The late Prof. Elias Loomis bequeathed more than \$300,000 in trust to Yale University, which, at the death of his two sons, will be conveyed to that institution.

Prizes and Honors.—The Janssen prize was bestowed by the French Academy upon Norman Lockyer. The Donohoe comet medal No. 1 was awarded to William R. Brooks, for the discovery of comet I 1890. The Council of the Royal Astronomical Society of England awarded no medal in 1889. The last official documents signed by Dom Pedro, ex-Emperor of Brazil, were those conferring on Admiral Monchez and M. M. Janssen and Perrotin the grade of officer of the Order of the Rose of Brazil, and on M. M. Frassenet and the brothers Henry knighthood of the same order.

AUSTRALASIA. The statistics of population, births, deaths, immigration, and emigration of the British colonies in Australasia for 1888 are given in the following table:

COLONIES.	Population.	Births.	Deaths.	Immigration.	Emigration.
New South Wales.....	1,085,700	88,525	14,408	65,256	49,681
Victoria.....	1,111,258	84,563	16,287	102,032	60,229
Queensland.....	387,463	14,247	5,529	84,854	23,009
South Australia.....	318,308	10,510	8,759	12,637	12,750
Western Australia.....	42,187	1,518	673	1,508	2,794
Tasmania.....	144,057	4,777	2,102	18,866	17,936
New Zealand.....	607,380	18,902	5,708	18,606	22,781
Fiji.....	125,441	4,599	4,944	.....	.....

Finance.—The revenue and expenditure of the several colonies, and the public debt of each, were as follow:

COLONIES.	Revenue.	Expenditure.	Debt.
New South Wales (1889).....	£9,063,897	£9,259,474	£46,657,859
Victoria (1889).....	8,676,081	7,920,238	37,627,882
Queensland (1889).....	8,614,632	3,497,506	27,915,684
South Australia (1889).....	2,302,494	2,273,233	20,685,500
Western Australia (1888).....	357,008	883,129	1,275,200
Tasmania (1889).....	673,000	673,000	4,565,750
New Zealand (1888).....	4,169,515	3,962,912	86,971,771
Fiji (1888).....	65,019	65,998	253,289

Commerce.—Wool is the principal export of New South Wales, the quantity exported in 1888 being returned as 235,848,944 pounds, of the value of £9,089,776. The value of the gold produced in the three years 1886-'88 was £1,051,192. The silver-lead ore raised in 1888 was valued at £1,075,737. The copper product in 1887 was £199,102 in value. The output of tin in 1888 was valued at £382,496. The product of the coal mines was 2,922,497 tons, valued at £1,346,440. The export of wool from Victoria in 1888 was 118,453,968 pounds, valued at £5,170,930, of which not more than three-fourths was the produce of the colony. The export of gold was £3,690,519, after which came breadstuffs, of the value of £938,008, and live stock, of the value of £406,777. The exports of manufactured articles to the other colonies are considerable. The largest exports of Queensland in 1888 were gold, of the value of £1,662,639; wool, £2,258,365; sugar,

Gold from the mines of the colony, most of which are on Government land, was exported to the amount of £914,300. Grain, flour, and pulse was exported of the value of £761,795. Frozen meat, viz., mutton in whole carcasses, has become an important article in the trade with England, the value of the export in 1888 being £628,800. The export of Kauri gum was valued at £380,933; of tallow, £124,950; of timber, £179,543; of hides, skins, and leather, £214,194; of butter and cheese, £197,170. From the Fiji Islands the chief export is sugar, of the value in 1888 of £270,649, besides which there is a trade in the dried kernel of the cocoanut, called copra, in bananas, and other products of the soil. The extent of the total foreign trade of the several colonies is shown in the following table:

COLONIES.	Imports.	Exports.
New South Wales (1888).....	£20,885,557	£20,850,715
Victoria (1888).....	23,972,194	13,883,763
Queensland (1888).....	6,646,738	6,126,862
South Australia (1888).....	5,413,038	6,984,098
Western Australia (1888).....	780,250	6,074,5
Tasmania (1888).....	1,610,664	1,883,565
New Zealand (1889).....	6,279,000	9,131,978
Fiji (1888).....	188,222	876,978

Navigation.—The following table shows the number of vessels and the tonnage entered and cleared at the ports of entry in each colony:

COLONIES.	VESSELS ENTERED.		VESSELS CLEARED.	
	Number.	Tonnage.	Number.	Tonnage.
New South Wales (1888).....	2,955	2,414,750	2,972	2,850,609
Victoria (1888).....	2,714	2,182,071	2,630	1,115,812
Queensland (1888).....	928	478,517	936	517,512
South Australia (1886).....	859	777,922	878	787,354
Western Australia (1888).....	263	462,807	266	409,808
Tasmania (1888).....	779	885,635	795	390,628
New Zealand (1888).....	688	526,485	701	581,473
Fiji (1887).....	106	49,579	.....	.....

Communications.—The following is a statement of the mileage of railroads completed, the number of miles of new railroads under construction or authorized, the total capital cost of the railroads in each colony, and the gross earnings and working expenses for the last year reported:

COLONIES.	Miles completed.	Miles authorized.	Capital expenditure.	Receipts.	Expenses.
New South Wales (1888).....	2,125	1,300	£36,097,803	£2,569,527	£1,577,530
Victoria (1889).....	2,191	509	29,363,566	2,766,449	1,753,014
Queensland (1888).....	1,981	681	18,064,508	776,794	507,961
South Australia (1888).....	1,500	824	.....	.....	.....
Western Australia (1888).....	205	534	.....	.....	.....
Tasmania (1888).....	827	114	.....	.....	.....
New Zealand (1889).....	1,949	.....	15,612,564	1,652,864	667,132

£384,419; and tin, £230,360. Wheat, including flour, is the leading export of South Australia. The value of the wheat exported in 1888 was £1,492,145; of the flour, £663,701; of the wool, £1,610,456; of the tin, £325,227. The principal exports of Western Australia are wool, of the value of £423,762 in 1888, after which come pearls and shells, timber, and sandal wood. Tasmania exported in 1888 wool of the value of £306,930; tin, of the value of £426,326; timber and bark, of the value of £133,027; and fruit, green and preserved, of the value of £120,494. New Zealand's chief commercial product is wool, the value of the export in 1888 being £3,115,008.

The length of telegraph wires in the several colonies, the number of messages, and the number of letters carried by the post-office are shown in the following table:

COLONIES.	Miles of Wire.	Dispatches.	Letters.
New South Wales (1888).....	22,219	8,410,417	48,956,000
Victoria (1888).....	10,360	2,743,368	47,700,776
Queensland (1888).....	16,618	1,284,438	17,867,103
South Australia (1888).....	11,148	.....	17,017,577
Western Australia (1887).....	2,385	180,775	2,253,814
Tasmania (1888).....	2,505	271,769	4,627,731
New Zealand (1888).....	11,617	1,763,660	40,398,020
Fiji (1887).....	.....	.....	174,417

Federation.—In the Australian Federal Council that assembled in Melbourne in February, 1890, all the colonies were represented, with the exception of Fiji. After a discussion that extended over several days, an address to the Queen was adopted, on the motion of one of the representatives of New Zealand, Sir John Hall, declaring that in the opinion of the conference the best interests and the present and future prosperity of the Australian colonies will be promoted by an early union under the Crown, with a single legislative and executive government, on principles just to the several colonies. A resolution to the same effect had been offered in the conference by Sir Henry Parkes. A national Australian convention was proposed, to which delegations of not more than seven members from each of the self-governing colonies and of not more than four members from each of the Crown colonies shall be sent. The conference was called at the suggestion of Sir Henry Parkes, the Premier of New South Wales, who had become the most earnest advocate of federation, although his colony had stood aloof from the Federal Council, the deliberative body that was constituted in 1883 with a view to concerted action for certain limited purposes. Nor would his Government now recognize the Council as a medium for the discussion of the details of the contemplated union. Mr. Gillies, of Victoria, and the other colonial premiers therefore proposed, and Sir Henry Parkes accepted, a compromise whereby the members of the Council in their private capacities met at Melbourne representatives sent by the Government of New South Wales. Duncan Gillies presided over the meetings, which began on Feb. 6 and closed on Feb. 13. The convention, which is to work out the details of the federal constitution, is to be held in the early part of 1891. Sir Henry Parkes was in favor of a union modeled on that of the Dominion of Canada, with a Governor-General appointed by the Crown and upper and lower houses of Parliament. A. J. Clarke, from Tasmania, thought it would be better to follow the Constitution of the United States. Some members of the Conference considered union to be imperative only for purposes of military and naval defense, while the New Zealand delegates, though approving the project of a common navy, denied the benefit to their colony of a federal army. James Service, speaking in behalf of Victoria, declared national unity to be impossible without uniform tariffs. The difficulties in the way of an early agreement, springing from intercolonial jealousies that have no connection with the practical questions of fiscal rivalry and the many divergent interests, are exemplified by the course of New South Wales in refusing to take part in the original Federal Council and in the recent proposal of Sir Henry Parkes to appropriate to his own colony the name of Australia. Still, the conference and the coming convention give evidence of a national spirit that has already gained such strength in Australia that statesmen are preparing to give it form. In the course of the summer the colonial legislatures elected the delegates who are to act for the several colonies in the Federation Convention.

New South Wales.—The Governor is Lord Carrington. The Cabinet in January, 1890, con-

sisted of the following members: Premier and Colonial Secretary, Sir Henry Parkes; Colonial Treasurer, William McMillan; Attorney-General, George Bowen Simpson; Secretary for Lands, James N. Brunker; Secretary for Public Works, Bruce Smith; Minister of Public Instruction, Joseph H. Carruthers; Minister of Justice, Albert J. Gould; Postmaster-General, Daniel O'Connor; Secretary for Mines, Sydney Smith; Vice-President of the Council, William H. Suttor.

The session that opened in the beginning of December, 1889, was short, confined principally to the passing of the estimates. The revenue returns indicated the beginning of returning prosperity. The year ended with a surplus of £70,000 in the treasury. The exports of wool had amounted to £3,000,000 more than was expected, the lambing season had proved one of the best ever known, and the wheat harvest was larger than ever before, being sufficient to supply three fourths of the requirements of the colony. The Parliament met again in April. The Protectionist minority expected to defeat the Government on the question of direct taxation. Mr. McMillan, the Colonial Treasurer, was challenged to propose the removal of the remaining duties that were inconsistent with the principles of free trade, which would necessitate the raising of £500,000 a year by direct taxation. The Government did not shrink from proposing a reform of the tariff in this sense. Other parts of their programme embraced the fixing of rents and license fees for Crown lands; district self-government; regulation of coal mines; protection for women and children in factories; amendment of the licensing law by the adoption of the principle of local option; extension of railroads and public works; improving the water supply in town and country; an amendment of the law relating to public health; water conservation and irrigation; uniform penny postage; amendments of the mining and criminal laws; drainage of low-lying lands; and the amendment of the electoral law by granting the franchise to both sexes, and limiting the suffrage to a single vote for each elector, instead of allowing a holder of real property to vote in each or any district where he has property. The revenue for the year ending June 30, 1890, amounted to £9,100,000, an increase of £214,000 over the receipts of the preceding year.

The recovery from depression in New South Wales and other Australian colonies was accompanied by a series of labor conflicts. Every trade has its union, and through the Trades and Labor Council of New South Wales and analogous central bodies in the other colonies the unions act together to aid each other in their strikes. The power and influence of the laborers is enhanced by the relations of a large number of them to the Government, which employs 6,000 men on the railroads and on the tramways of Sydney, who are organized in a union that is affiliated to the corresponding organizations in the other colonies. The Government is the owner likewise of many of the wharves in Sydney. In June dock laborers were forbidden by their union to load wool that had been shorn by non-union men, and in consequence the steamship was unable to proceed till the sheep-shearers had gained

their point. In South Australia the railway commissioners were compelled to yield when forbidden by the unions to transport boycotted goods. A general wharf laborers' strike in Sydney for the dismissal of non-union men, higher wages, and an intermission of half an hour in the eight hours to smoke tobacco was settled at the outset by a compromise, being supported by not fewer than 500 unions. In Victoria occurred strikes of the bakers against long hours and night work; of the bootmakers; of brickmakers against the employment of boys to displace men; and in the building trades, in which wages have been reduced in consequence of the late crisis in the real-estate market and the stoppage of speculative building. The 21st of April is celebrated as a general holiday in Melbourne in commemoration of the achievement of the eight hours' day. All business and traffic is stopped, and even the Governor contributes to the celebration by reviewing the procession of the trade bodies.

Victoria.—The Governor of the colony is the Earl of Hopetown, who assumed the government in November, 1889. The Cabinet at the beginning of 1890 consisted of the following ministers: Premier, Treasurer, Minister of Mines, and Minister of Railways, Duncan Gillies; Chief Secretary and Commissioner of Water Supply, Alfred Deakin; Attorney-General, H. J. Wrixon; Commissioner of Public Works, D. M. Davies; Minister of Justice, Henry Cuthbert; Commissioner of Crown Lands, J. L. Dow; Commissioner of Trade and Customs, J. B. Patterson; Minister of Instruction, C. H. Pearson; Minister of Defense, James Bell; Postmaster-General, F. T. Derham.

In the parliamentary session that was closed on Nov. 25, 1889, an altercation arose between the Assembly and the Council over a bill regulating the administration of the customs, which contained a clause giving the Commissioner of Customs certain discretionary powers to fix the rate of duty in doubtful cases, a provision that should have been embodied in a separate bill that the Council could accept or reject, but could not, under the Constitution, amend. The indignation of the Lower House was aroused in the last hours of the session against the Council on account of the excision of a clause in an amending education bill permitting members of Parliament to act as commissioners in the education department, although by a general act passed several years before they are incapacitated for any paid office under the Government. A bill was passed introducing the penny post throughout the colony. Other enactments relate to irrigation, water conservation, medical practitioners, the public health, suppression of rabbits, and the Federal Council. An amendment to the divorce law, introduced by Mr. Shiels, was almost identical with that which Sir Alfred Stephen had a year or two before succeeded in passing through the New South Wales Parliament, but which was disallowed by the Crown. The Victoria bill, which authorizes divorce for various causes not recognized in England, among them three years' desertion, was likewise reserved for the consideration of the home authorities. It had been modified in some particulars suggested when the Sydney bill was under consideration, and was confirmed by

the Secretary of State, notwithstanding the protests of the Anglican, Presbyterian, and Wesleyan clergy of Victoria. The Anglican bishops directed the clergy of their dioceses to refuse to officiate at the marriages of persons divorced under the act, or to issue marriage licenses to such persons. The Government had obtained authority to raise a new loan of £5,600,000 for railroad construction. Promises had been given for 6,000 miles; yet in the session that began on May 21, 1890, Mr. Gillies could only ask for leave to build 1,077 miles, to cost £12,500,000, including equipment, besides £2,000,000 to be spent in equipping and improving existing lines. The Opposition accused the Government of extravagance and of laying out new lines for political objects, and declined to allow the Premier, who is the responsible Minister of Railways, to screen himself by pleading the recommendations of the railway commissioners. The last year's treasury accounts were closed with a nominal surplus of £1,704,000, but this vanished, as usual, when the expenditures already incurred were charged to the next year's account, being reduced to £142,497 at the end of the first quarter. The revenue for the year ending June 30, 1890, was £8,511,000, being £342,000 above the budget estimate. The income from railroads was £3,134,000, or £29,000 more than in the preceding year. The revenue for the ensuing year was estimated at £9,718,000, and the expenditure at £9,651,000. Advancement has been made in the defenses, which have been pronounced by Gen. Edwards among the best in the empire since the rearmament of the forts with the new type of breech-loading guns. The militia and volunteer forces are being augmented. A Minister of Health has been appointed. A reform in education involving the abolition of payment by results, as determined by the examination of the school inspectors, and the endowment of a national system is in contemplation. The irrigation works are already available for farmers in some districts. It has been supposed that Victoria is all but destitute of coal; but recently extensive deposits of both the black and brown varieties have been discovered in Gippsland, and companies have been formed to bring the product of these fields into the market to compete with New South Wales coal. Many farmers are discontented with the Protectionist party since the rejection of the proposals to impose a duty of 3s. per cental on grain and pulse and increase the duties on live stock and meat. Recent changes in the tariff increase the drawbacks and place a few additional unimportant articles on the free list.

Queensland.—The present Governor, Sir Henry Wylie Norman, received his appointment in December, 1888. The following ministers were in office at the beginning of 1890: Premier, Chief Secretary, and Vice-President of the Executive Council, B. D. Morehead; Minister for Lands, M. Hume Black; Minister for Railways and for Public Works, H. M. Nelson; Postmaster-General and Minister for Public Instruction, Charles Powers; Colonial Secretary and Secretary for Mines, J. M. Macrossan; Minister of Justice, A. J. Thynne; Colonial Treasurer, J. Donaldson. Queensland has suffered more than other colonies from drought and other depressing causes. Two or three years of deficient

rainfall have been followed all over Australia by excessive rains, and in this colony floods did much damage. Immigration almost ceased. The revenue for 1889-'90 was £3,212,000, showing a decrease of £403,000 as compared with the previous year, and the expenditure was £3,696,000, an increase of £198,000. For the succeeding year the revenue was estimated at £3,609,000 and the expenditure at £3,757,000. The deficit the Colonial Treasurer proposed to meet by a tax of a penny in the pound on real and personal property and additional duties of 2s. a gallon on spirits and 3d. on beer. These proposals not receiving the support of the Assembly, the ministry resigned and a new one was formed by the leader of the Opposition on Aug. 12, consisting of the following members: Chief Secretary and Attorney-General, Sir S. W. Griffith; Colonial Treasurer, Sir T. McIlwraith; Secretary of Mines and Instruction, W. O. Hodgkinson; Secretary for Railways and Postmaster-General, T. Unmack; Secretary for Public Lands and Agriculture, A. S. Cowley; Minister for Public Works and Colonial Secretary, Horace Tower; Minister without a portfolio, Walter Horatio Wilson.

Although the Premier questioned the right of the signers of an appeal for separation that was transmitted to the English Government to speak for the whole population of Northern Queensland, the Governor, after visiting that part of the colony, reported on April 18, 1890, that the north is loyal and desires to establish a new colony constitutionally, a considerable majority being favorable, and what opposition there was springing from differences of opinion regarding the site of the capital. The Separationists can only appeal directly to the home Government, as they are in a Parliamentary minority, and have no prospect of obtaining a favorable measure from the colonial Legislature. No measure of financial decentralization would prove satisfactory.

South Australia.—The Governor is the Earl of Kintore, who was appointed in December, 1888. The ministry at the beginning of 1890 was composed as follows: Chief Secretary and Premier, J. A. Cockburn; Attorney-General, B. A. Moulden; Treasurer, F. W. Holder; Commissioner of Crown Lands, Thomas Burgoyne; Commissioner of Public Works; J. H. Howe, Minister of Education, J. H. Gordon. New elections for Parliament took place in April, when all the ministers were returned, but a majority was elected that was opposed to the progressive land tax that was the chief feature of the ministerial programme as presented at the opening of the session on June 5. The financial returns for 1889-'90 showed satisfactory elasticity in the revenue, which amounted to £2,478,980, an increase of £176,000. The expenditure was £2,404,179. Railroad earnings showed an increase of £120,000. A railroad has been built from Port Darwin to the new mining district of Pine Creek. Parliament considered a bill for continuing the Transcontinental Railway to the McDonnell range, and measures for encouraging agricultural, pastoral, and mining enterprise in the northern territory. The fiscal scheme of Dr. Cockburn's ministry embraced progressive duties on the value of inheritances and testamentary bequests as well as a progressive land tax in conjunction with the remission of

the duties on tea, coffee, cocoa, and kerosene and the reduction of that on sugar. On the defeat of the ministry a new one was formed on Aug. 18, composed as follows: Premier and Treasurer, T. Playford; Chief Secretary, J. C. Bray; Attorney-General, R. Homburg; Commissioner of Crown Lands, W. Copley; Commissioner of Public Works, W. B. Rounsevell; Minister of Education, D. Bews.

Western Australia.—Sir William C. F. Robinson has been appointed Governor of Western Australia to succeed Sir Frederick Napier Broome, who, after filling the office to the great satisfaction of the colonists, returned to England in December, 1889. Sir William Robinson, who has twice before been Governor of the colony, was more recently Governor of South Australia, and before the arrival of Lord Hopetoun was acting Governor of Victoria. The people of Western Australia, disappointed at the failure of the enabling bill before the British Parliament in the session of 1889, redoubled their efforts to secure a constitution in 1890. Not only did Sir Frederick Broome leave before the termination of his office in order to urge their case before the Government and Parliament of Great Britain, but S. H. Parker, the leader of the elected members of the Council, and Sir Thomas Cockburn-Campbell, the chairman of committees, were dispatched to England on the same errand. The colonists had no need of a special charter, but were enabled, under the act that separated Victoria from New South Wales and created or confirmed legislative councils in the two colonies, to adopt responsible government and enjoy as full a measure of political independence as any of the self-governing colonies, except in one important particular. The title and control of the Crown lands would remain with the Imperial Government. A large section of the British public objected to handing over to a few thousand colonists all that remained of the Crown domain, the patrimony of the British nation, particularly since the tendency has been developed in Australia to accumulate great masses of land in the hands of land kings and speculators. The colonists protested that there was as good reason to intrust them with full control within the colonial boundaries as there was to give the Queenslanders full possession of a territory relatively as great, that they had already for many years past practically managed all the land of the colony without interference in a manner to which no reasonable exception could be taken, and that the best land and the only region suitable for European settlement they would have in any event, the rest being mainly spinifex desert. Their English critics pointed to the way in which they treated the pearl-fishing fleets, in which British capital was invested, charging duties on all their supplies and an export duty of £4 a ton on the shells, on which they took off half the export duty. Seeking to please both sides, the Government, in the bill that was brought in, left the colonists the whole of the southern and temperate part of the colony, while reserving for imperial control the larger section lying north of the 26th parallel of latitude. The bill also provided that the British Parliament might veto any act of the colonial Legislature the effect of which would exclude immigrants. The reserved

territory was intended to receive the overflowing population of India, although that kind of immigration is deemed undesirable by the Australians, and would probably never be suffered after federation is once achieved. The select committee of the House of Commons, to which the bill was referred, pronounced against establishing a Crown colony in the north, or reserving to the Imperial Government power to regulate the disposal of waste lands north of latitude 26°. At present there is a population of 3,000 persons in the whole region, who are not settled, as they follow mining or pastoral pursuits, for which alone the land is adapted, owing to the heat and deficient rainfall. These residents prefer that the land regulations should be vested in the imperial authorities. There is much land available for agriculture in the southwest. About 3,000,000 acres have been transferred, and 4,000,000 acres more are about to be transferred to land companies. Coal has been discovered in large deposits at several points, none of it being bituminous. Western Australia is provided with a railroad, 300 miles long, from Albany, on King George's Sound, to York, Perth, and Fremantle. Other railroads already built made the total mileage 442 in 1889. A new line, partly constructed in 1890, is 295 miles in length. It leads to gold fields discovered near Norcia and to Strawberry Hill, where there are coal, lead, and copper, passing through a country very salubrious and capable of producing cereals and fruits of the temperate and tropical zones. There were 2,970 miles of telegraph. The Western Australian gold fields, of which there are five or six in various parts of the colony, have made slow headway, but it is only recently that machinery has begun working on the quartz ledges. A promising tin field has been discovered in the southern district. It is expected that when responsible government is established immigrants will flock to the colony, and that there will be such rapid strides of material development as took place in Queensland.

Tasmania.—Sir Robert G. C. Hamilton has been Governor since January, 1887. The following were the responsible ministers in 1890: Premier and Chief Secretary, Philip Oakley Fish; Treasurer, Bolton Stafford Bird; Attorney-General, Andrew Inglis Clark; Minister of Lands and Works, Alfred Pillinger. The Treasurer anticipated a surplus of £30,000 in 1889-'90, and one of half that amount in the succeeding year. Like all the colonies, Tasmania is still extending her railroads. Lines 114 miles in length were in process of construction in 1889.

New Zealand.—The Earl of Onslow was appointed Governor in November, 1888. At the beginning of 1890 the following ministers composed the Administration: Premier, Colonial Treasurer, Postmaster-General, Minister of Marine, Commissioner of Stamps, and Commissioner of Trade and Customs, Sir H. A. Atkinson; Attorney-General, Sir Frederick Whitaker; Minister of Native Affairs and Telegraph Commissioner, E. Mitchelson; Colonial Secretary, Minister of Justice, and Minister of Defense, W. R. Russell; Minister of Lands, Agriculture, and Immigration, G. F. Richardson; Minister of Public Works and Mines, T. Fergus; Minister of Education, T. W. Hislop; without portfolio, E. C. J. Stevens. The revenue returns for 1890 show

an improvement on those of the previous year of £200,000, the total receipts being £4,200,000. The increase was due to railways and customs, while the revenue from the property tax fell off. There was a surplus of receipts over expenditures amounting to £116,000. A successful International Exhibition was held in 1890 at Dunedin.

Fiji.—The Governor of Fiji and High Commissioner for the Western Pacific is Sir John Bates Thurston. In two of the sixteen provinces the administration is conducted by European commissioners, while in the others native chiefs, under the title of Roko Tui, govern in accordance with the laws and customs in force prior to the British annexation of the islands in 1874. The education of the native Fijians is conducted by the Wesleyan missionaries, who taught 41,077 children in 1888, and by the Roman Catholic mission, which had 1,040 pupils in 1885. The European settlers have begun the cultivation of tea, coffee, and cotton. The export of sugar in 1888 was 16,916 tons; of copra, 4,219 tons. Of the total population of 125,000 only 2,500 are whites.

AUSTRIA-HUNGARY. A dual monarchy in central Europe, composed of the Empire of Austria, otherwise called the Cisleithan Monarchy, and the Kingdom of Hungary, known also as the Transleithan Monarchy or the lands of the Crown of St. Stephen.

The two halves of the empire have existed as separate states since 1867, having one dynasty, a common diplomacy, an army and a navy administered in common though each monarchy legislates separately on military affairs, the same coinage, a customs union, and a reciprocal agreement in regard to railroads and other matters of common interest. The Emperor of Austria and King of Hungary is Franz Josef I., born Aug. 18, 1830, who entered on his reign on Dec. 2, 1848. The heir presumptive is his nephew the Archduke Franz, born Dec. 18, 1863, son of the Archduke Carl Ludwig and the Princess Annunziata, daughter of King Ferdinand II of Naples.

The following are the Ministers for Common Affairs: Minister of Foreign Affairs and of the Imperial House for the Whole Monarchy, Count G. Kalnoky, appointed Nov. 21, 1881; Minister of War for the Whole Monarchy, Field-Marshal Baron Ferdinand Baner, appointed March, 16, 1883; Minister of Finance for the Whole Monarchy, Benjamin de Kállay, appointed June 4, 1882.

Commerce.—The general commerce of the Austro-Hungarian customs union, including Bosnia and Herzegovina, amounted in 1888 to 533,100,000 florins of imports and 725,500,000 florins of exports, compared with 568,600,000 florins of imports and 672,900,000 florins of exports in 1887. The largest imports in 1887 were the following: Cotton, 56,500,000 florins; wool, 42,800,000 florins; coffee, 33,000,000 florins; silk, 19,500,000 florins; leaf tobacco, 18,500,000 florins; hides, skins, and furs, 18,300,000 florins; manufactured tobacco, 16,700,000 florins; woolen yarn, 16,400,000 florins; cotton yarn, 15,200,000 florins; leather, 14,900,000 florins; coal, 14,800,000 florins; grain, 12,700,000 florins; silk, manufactures, 12,400,000 florins; woolen manufactures, 12,000,000 florins; colors and tanning materials, 11,200,000 florins; machinery, 11,200,-

000 florins; hardware and clocks, 10,700,000 florins; cattle, 10,300,000 florins; books, 10,200,000 florins. The chief exports in 1887 were: Cereals, 73,100,000 florins; timber, 55,100,000 florins; sugar, 44,400,000 florins; hardware, 35,500,000 florins; cattle, 26,100,000 florins; woolen manufactures, 25,100,000 florins; flour, 21,000,000 florins; glass, 20,400,000 florins; coal, 18,600,000 florins; wood manufactures, 15,900,000 florins; wool, 15,200,000 florins; wine, 14,700,000 florins; iron and manufactures of iron, 14,700,000 florins; paper, 12,700,000 florins; minerals, 11,000,000 florins; gloves, 10,900,000 florins; poultry, 10,500,000 florins; feathers, 10,500,000 florins; linen yarn, 10,000,000 florins; leather manufactures, 10,000,000 florins; silk goods, 10,000,000 florins.

The imports of gold and silver in 1887 were 10,600,000 florins, and the exports were 4,900,000 florins.

The special imports of Hungary in 1888 amounted to 465,500,000 florins, of which 388,500,000 florins were from Austria; the special exports to 446,400,000 florins, of which 310,300,000 florins went to Austria. The imports from Germany into Hungary amounted to 24,889,000 florins; and the exports to Germany to 49,500,000 florins; the imports from Servia to 15,623,000 florins and the exports to Servia to 6,000,000 florins.

Navigation.—The number of vessels entered at the ports of Austria and Hungary during 1877 was 69,594 of 8,066,428 tons; the number cleared was 69,620 of 8,075,565 tons. Of the vessels entered 83 per cent., of those cleared 84 per cent. carried the Austrian flag. At the port of Trieste alone 7,670 vessels of 1,368,706 tons were entered and 7,676 of 1,368,706 tons, cleared in 1888.

Railroads.—On Jan. 1, 1889, there were 24,432 kilometres or 15,270 miles of railroads in both halves of the empire, exclusive of 342 miles in Bosnia and Herzegovina. The total capital invested up to 1885 was 3,475,203,000 florins. In 1887 there were carried 70,366,000 passengers and 79,169,000 tons of freight. The Austrian lines in 1889 had a total length of 4,267 kilometres, or 8,917 miles, comprising 3,973 kilometres of state lines, 1,918 kilometres of private lines operated by the state, and 8,376 kilometres worked by companies, including 84 kilometres belonging to the state. In Hungary, there were 8,490 kilometres of state lines, 916 kilometres of companies' lines worked by the state, and 4,732 kilometres owned and worked by companies, making altogether 10,165 kilometres, or 6,353 miles.

The zone tariff system, with reduced passenger rates, introduced on the Hungarian railroads in August, 1889, proved very popular and successful. The number of passengers for the latter half of the year was about 3,000,000 greater than in the corresponding part of the previous year, and the receipts for the year were 9,800,000 florins, against 8,800,000 florins in 1888. With some modifications, the system was introduced on the Austrian railroads in June, 1890. There are 26 zones, as compared with 14 in Hungary. The rates of fare are 1 krentzer per kilometre, about 1 cent a mile, for third-class, 2 krentzers for second-class, and 3 krentzers

for first-class passengers on ordinary trains. On express trains they are 50 per cent. higher.

Posts and Telegraphs.—The telegraphs in Austria had 24,904 miles of line and 65,469 miles of wire in 1888. The number of dispatches was 9,199,038. In Hungary there were in 1887 11,512 miles of line, with 42,583 miles of wire. The number of messages transmitted in that year was 3,724,370. On the lines of Bosnia and Herzegovina, 1,743 miles, with 3,480 miles of wire, 317,234 messages were sent in 1887.

The number of letters sent through the Austrian post-office in 1888 was 480,374,000; of postal cards, 91,217,000; of patterns and circulars, 59,682,000; of newspapers, 93,845,000. The receipts were 27,916,109 florins; expenses, 24,124,327 florins. The Hungarian post-office in 1887 forwarded 126,567,000 letters, 30,758,000 postal cards, 20,460,000 samples and printed inclosures, and 53,500,000 newspapers. In Bosnia and Herzegovina there passed in 1887 through the post-office 4,996,000 letters and postal cards, 190,900 samples and printed matter, and 656,400 newspapers.

Common Finances.—The division of the expenses of the common administration is periodically settled by an agreement or Ausgleich. According to the last arrangement Hungary bears 2 per cent. of the common expenses over and above the common receipts of the customs, and the remainder is divided in the proportion of 70 per cent. for Austria and 30 per cent. for Hungary. A common loan may be raised, and the floating debt, consisting of treasury bills, is a joint obligation. On account of the debt of the empire contracted before 1869 Hungary pays the annual sum of 30,312,920 florins.

The budget estimates for the common affairs of the monarchy for 1890 call for 132,224,339 florins, of which 39,953,850 florins represent the estimated surplus from customs, 2,872,631 florins the receipts of the various ministries, 1,787,957 Hungary's 2 per cent. and 87,609,901 florins the contributions of the two parts of the empire. The estimated expenditures are of the following amounts in florins:

EXPENDITURE FOR	Ordinary.	Extraordinary.	Total.
Ministry of Foreign Affairs	4,542,000	148,400	4,690,400
Army	100,799,930	18,338,948	119,138,878
Navy	9,354,877	188,920	9,543,797
Minister of Finance	2,006,810	.....	2,006,810
Board of Comptrol.	128,574	.....	128,574
Total	113,960,161	18,527,268	132,487,429

The estimated cost of the civil administration of Bosnia and Herzegovina for 1890 is 9,688,641 florins and the estimated revenue from the provinces is 9,736,150 florins. There is besides the extraordinary estimate of 4,282,000 florins for the cost of the military occupation.

The burden of the general debt falls chiefly on Austria. The total capital in 1889 amounted to 3,199,791,000 florins. Austria's special debt was 1,058,636,000 florins and the special debt of Hungary 1,545,792,000 florins, making the total indebtedness of the dual monarchy 5,804,219,000 florins. The public debt of Austria amounts to 152 florins per head of population, and that of Hungary to 84 florins per head.

The Army.—The present military law was adopted in Austria and Hungary in 1889. The age of obligatory service begins at twenty-one. The period of active service in the regular army is three years, at the end of which the soldier is enrolled for seven years in the reserve, then for two years in the Landwehr, and after that for ten years in the Landsturm. Those who are not drafted into the regular army are enrolled for ten years in the Ersatz Reserve or for twelve years in the Landwehr. The Landwehr is separately organized in the two halves of the monarchy and can be mobilized only at the command of the Emperor. From the Ersatz reserve men are drawn for the army and the Landwehr in time of war. All men who are not enrolled in the army, navy, Ersatz reserve, or Landwehr belong to the Landsturm, which can be sent out of its own territory only by special statute. Men can be drafted from the Landsturm to fill gaps in the army or the Landwehr. The annual recruit of the army is 103,100 men—60,389 from Austria and 42,711 from Hungary. There is an annual contingent of 10,000 for the Austrian and 12,500 for the Hungarian Landwehr, and of 2,740 and 2,250 respectively for the Ersatz reserve. The strength of the Austro-Hungarian army in 1889 is exhibited in the following tabular statement:

DESCRIPTION OF TROOPS.	PEACE FOOTING.			WAR FOOTING.			
	Army.	Landwehr.	Total.	Army.	Landwehr.	Landsturm.	Total.
Infantry.....	160,635	22,586	198,471	562,601	305,949	481,172	1,349,722
Cavalry.....	44,416	8,525	48,241	64,083	20,750	8,620	93,453
Artillery.....	30,117	.....	30,117	91,054	.....	.....	91,054
Technical troops.....	8,854	.....	8,854	30,289	.....	.....	30,289
Train.....	4,003	.....	4,003	38,917	.....	.....	38,917
Sanitary troops.....	2,712	.....	2,712	15,482	.....	.....	15,482
Staff, etc.....	5,476	.....	5,476	6,154	1,900	.....	27,372
Establishment.....	8,054	1,068	14,598	19,918	.....	.....	.....
Guards, military police, etc.....	.....	.....	21,167	482	20,685	13,702	34,869
Total.....	278,297	25,729	323,193	828,960	349,284	459,492	1,637,736

In case of war about 4,000,000 men can be called out to serve in the Landsturm. The number of guns in peace is 856; in war, 2,008. The comprehensive reform of the military system which began with the army law of 1868 and has been completed by the Landsturm law of 1887 and the recruiting law of 1889 enables Austria to hold ready a reserve equal to one fourth of the strength of the active army and to call into the field great masses of troops of the second line. The empire has more than 2,000,000 trained men. The formations that can be called to arms in case of war number about 1,750,000 men, of whom 1,250,000 can be mobilized in the first line and 500,000 in the second line. Besides these the Landsturm is expected to receive an efficient organization, and is likely to have the number of army corps into which it is divided increased by one half, and even then have numerous troops to spare for local and garrison service. The field army is organized in 14 *corps d'armée*, of 2 divisions each. The army corps consists of 30 battalions, 28 squadrons, and 96 guns, having a total strength of 36,000 foot and 7,000 horse. As many infantry divisions of Landwehr as there are army corps in the regular army can be called to arms in case of war, and besides these there are 7 reserve divisions of

infantry and 8 of cavalry. Austria-Hungary is so rich in horses that 91,000 cavalry can be placed in the field, of which number 70,000 are counted in the troops of the first line. The subsistence department has as many divisions as there are army corps, and the depot troops consist of 250 battalions, with a number of reserve Landwehr battalions. Tyrol and Dalmatia are specially protected by their territorial establishments, while 210 territorial Landsturm battalions, besides a number of recruiting camps, are distributed in other parts of the country.

The infantry are now armed with the new small-caliber Mannlicher repeating rifle, which has been proved capable of resisting the gas pressure of the smokeless powder. The new powder has been found to increase the point-blank range from 500 yards to twice or three times that distance, rendering it unnecessary for soldiers to readjust their sights during action.

The Navy.—The war navy in 1889 consisted of 2 armored turret ships, 8 casemated battery ships, and 1 plated frigate, making 11 armor-clad line-of-battle ships, 1 ram cruiser, 7 torpedo cruisers, 3 torpedo vessels, 3 avisos, 48 torpedo boats, 2 monitors, 4 training ships, and 39 other vessels, or altogether 118 vessels, carrying 415 guns, besides 312 machine guns. The most powerful

vessels are the barbette ships "Stephanie" and "Kronprinz Rudolf," plated with 9 and 12 inches respectively of steel-faced armor, and carrying the former 2 and the other 3 48-ton guns. They were launched in 1887. The fleetest ship is the ram-cruiser "Kaiser Franz," launched in 1889, carrying 8 154-ton guns, and capable of steaming 18½ knots. The "Kaiserin Elisabeth," now building at Pola, will have the same speed. The eight sea-going torpedo cruisers recently built are the fastest of their class. The "Panther" and "Leopard," built at Elswick, of 1,530 tons displacement, have attained a speed of nearly 19 knots when fully armed and equipped. A third, the "Tiger," built at Trieste, has a displacement of 1,675 tons and engines of 4,000 horse power.

The Delegations.—The session of the Delegations began at Buda-Pesth on June 4. The budget estimates the ordinary expenditure for 1891 at 119,231,893 florins and the extraordinary at 16,402,339 florins, making a total of 135,634,232 florins. The credits asked for included sums for the purchase of smokeless powder, for the creation of a new regiment of cavalry, and for the reorganization of the fortress artillery. Baron Baner, the Minister of War, when criticised for adding 2,526 men to the peace establishment and 20,000,000 florins to the military budget so soon

after the new army law had fixed the yearly contingent for ten years at 103,000 men for the regulars and 22,000 for the reserves, provoked an outcry by saying that the peace effective of the army was certainly inadequate, and that small additional credits must be from time to time demanded unless 100,000,000 or 120,000,000 florins were voted in a lump for bringing the army up to the requirements of the time.

Austria.—The Austrian Reichsrath in 1889 numbered in the Upper House or Herrenhaus 20 archdukes, 66 territorial nobles, 10 archbishops, 7 prince bishops, and 109 life-members, and in the Lower House or Abgeordnetenhaus 353 members, of whom 85 represent the landed proprietors, 116 the towns, 21 the chambers of trade and industry, and 131 the rural communes. The representation of Bohemia in the Abgeordnetenhaus is 92 members, or 1 to 62,551 inhabitants; of Galicia, 63, or 1 to 100,420; of Lower Austria, 37, or 1 to 68,761; of Moravia, 36, or 1 to 61,505; of Styria, 23, or 1 to 54,835; of Tyrol, 18, or 1 to 45,100; of Upper Austria, 17, or 1 to 45,100; of the Coast Province, 12, or 1 to 57,085; of Carniola, 10, or 1 to 47,418; of Silesia, 10, or 1 to 69,026; of Dalmatia, 9, or 1 to 57,203; of Corinthia, 9, or 1 to 39,873; of Bukovina, 9, or 1 to 69,026; of Vorarlberg, 3, or 1 to 36,671; of Salzburg, 5, or 1 to 33,961. Each province has a Diet, consisting of a single chamber, which is competent to legislate on all matters not reserved by the Constitution to the Reichsrath. The provincial diets are composed of the archbishops and bishops of the Roman Catholic and Greek Catholic churches, representatives of the large land-owners, representatives of the towns, representatives of chambers of commerce and trade guilds, and representatives of the rural communes elected indirectly. The respective number of members in the sixteen provincial diets is as follows: Lower Austria, 72; Upper Austria, 50; Salzburg, 26; Styria, 63; Carinthia, 37; Carniola, 37; Galicia and Goraliska, 22; Istria, 33; Tyrol, 68; Vorarlberg, 21; Bohemia, 242; Moravia, 100; Silesia, 31; Galicia, 151; Bukovina, 31; Dalmatia, 43. The deputies are elected for six years.

The Austrian Council of Ministers is composed of the following members: President and Minister of the Interior, Count Edward Taaffe, appointed Aug. 19, 1879; Minister of Public Instruction and of Ecclesiastical Affairs, Dr. Paul Gautsch von Frankenthurn, appointed Nov. 6, 1885; Minister of Finance, Dr. J. Dunajewski, appointed June 26, 1880; Minister of Agriculture, Count Julius Falkenhayn, appointed Aug. 19, 1879; Minister of Commerce and National Economy, Marquis von Bacquehem, appointed July 28, 1886; Minister of Landesvertheidigung or National Defense, Count S. von Weisersheimb, appointed June 25, 1880; Minister of Justice, Count Friedrich von Schönborn, appointed Oct. 13, 1888; without portfolios, Baron von Prazak, appointed Oct. 11, 1888, and Ritter von Zalski, appointed on the same date.

Area and Population.—The area of Austria proper is 115,903 square miles. The official estimate of population for Dec. 31, 1888, was 23,494,995, varying in density from 61 to the square mile in Salzburg to 338 in Lower Austria, and averaging 202. The number of marriages in 1888 was 186,273; of births, 800,663; of deaths,

688,122; the surplus of births over deaths, 202,541. The population of Vienna at the end of 1888 was estimated at 1,350,000; of Prague, 304,000; of Trieste, 160,000; of Lemberg, 122,000; of Gratz, 106,000.

Finances.—The revenue is given in the financial estimates for 1889 as follows:

SOURCES OF REVENUE.	Florins.
Council of Ministers.....	722,000
Ministry of the Interior.....	1,144,206
Ministry of Defense.....	269,279
Ministry of Worship and Education.....	5,574,849
Ministry of Finance:	
Administration.....	8,824,570
Land tax.....	85,190,000
House tax.....	81,638,000
Industry tax.....	11,000,000
Income tax.....	25,170,000
Various.....	8,979,590
Customs.....	87,400,000
Indirect taxes:	
Excise.....	100,656,800
Salt.....	20,325,000
Tobacco.....	81,378,000
Stamps.....	18,800,000
Judicial fees.....	84,000,000
Lottery.....	21,500,000
State property.....	2,425,555
Ministry of Commerce:	
Posts and telegraphs.....	29,627,670
Railroads.....	44,405,650
Various.....	792,180
Ministry of Agriculture:	
Forests and domains.....	4,009,660
Mines.....	6,044,702
Various.....	675,783
Ministry of Justice.....	832,140
Other sources.....	603,806

Total ordinary receipts..... 521,521,369

Extraordinary receipts..... A..... 20,994,575

Total revenue..... 542,515,944

The estimates of expenditure were as follow for 1889:

HEADS OF EXPENDITURE.	Florins.
Imperial household.....	4,650,000
Imperial Cabinet Chancery.....	73,280
Reichsrath.....	706,135
Supreme Court.....	22,600
Council of Ministers.....	1,042,017
Ministry of the Interior.....	16,891,637
Ministry of Defense.....	12,699,264
Ministry of Education and Worship:	
Central establishment.....	1,438,880
Public worship.....	6,419,810
Education.....	12,119,478
Ministry of Agriculture.....	11,900,175
Ministry of Finance.....	82,777,856
Ministry of Justice.....	20,097,400
Ministry of Commerce.....	56,433,800
Board of Comptrol.....	167,000
Interest and amortization of debt.....	148,198,551
Management of debt.....	903,900
Pensions and donations.....	18,415,080
Contribution to common expenditure.....	101,621,524

Total ordinary expenditure..... 490,972,787

Extraordinary expenditure..... 49,073,148

Total expenditure..... 540,045,885

The revenue for 1890 was reckoned at 547,368,704 florins, and the total expenditures were estimated at 545,771,700 florins. The expected surplus is likely to change into a deficit, as it has invariably before. Nevertheless, the financial condition of Austria has shown a steady improvement for years past, though not without adding to the severe load of taxation that the people have to bear.

Education.—Attendance in the elementary schools is compulsory from the age of six to the age of fourteen, except in Istria, Galicia, Bukovina, and Dalmatia, where, as in Hungary, the

school age ends with the completion of the twelfth year. The subjects taught are reading, writing, arithmetic, religion, grammar, geometry, geography, natural history, physics, history, drawing, singing, gymnastics (to boys), and household work (to girls). The schools are built and supported by the communes. There were 17,926 elementary schools, with 59,200 teachers and 2,857,669 pupils in 1887. The gymnasias in 1889 numbered 172, with 3,510 teachers and 55,089 pupils; the Realschulen or scientific middle schools, 85, with 1,370 teachers and 18,860 pupils. The University of Vienna in 1889 had 368 professors and tutors and 5,218 students; the Bohemian university at Prague, 121 instructors and 2,361 students; the German university at Prague, 142 instructors and 1,470 students; Gratz University, 130 instructors and 1,296 students; Cracow University, 111 instructors and 1,206 students; Lemberg University, 62 instructors and 1,129 students; Innsbruck University, 96 instructors and 862 students; Czernowitz University, 42 instructors and 259 students. The colleges for Catholic theology in 1888 numbered 49, with 225 instructors and 2,199 students. There was one school for Protestant theology, with 41 students, and one for Greek Oriental theology, with 16 students. The Polytechnic Institute in Vienna had 91 teachers and 796 students in 1889. In Prague there is a Bohemian polytechnicum with 63 teachers and 334 students and a German one with 49 teachers and 184 students. There are besides 1,460 special technical schools for art, music, commerce, agriculture, mining, and various industries, with about 150,000 students. In 7,001 of the elementary schools the language is German; in 4,246, Czech; in 4,058, other Slavic languages; in 870, Italian; in 63, Roumanian; in 3, Magyar; and in 448 more than one language is used. In 1886 there were 85.1 per cent. of the children of school age in actual attendance in the schools.

The Bohemian Ausgleich.—Count Taaffe's policy of compromise has been described by himself as *durchfretten*, or "rubbing along." He came into office after the German Liberals had been governing for years under Prince Alexander Auersperg and were no longer able to crush down the rising spirit of nationalism. The mission that he undertook was to build up a Conservative party by making the Czechs, Poles, Slovenians, and Italians of Istria and the Trentine work together with the feudal and Ultramontane German elements. To maintain this union the Germanizing policy of Prince Auersperg and Count Beust was reversed, the liberalizing tendencies in religious, educational, and social legislation were checked to please the Clericals, and the democratic wave that was sweeping away the remnants of aristocratic privileges was retarded. The coalition worked harmoniously by the aid of concessions to the nationalities and Conservative elements of which it was composed until the once supreme German Liberal party became so feeble that it threatened to resort to the final but always effective manoeuvre of dissolving the party and withdrawing from the Reichsrath, having already left the Bohemian Diet. Dangerous defections began to take place in the unwieldy and heterogeneous majority, and new opposition parties began to

form, which menaced the stability and internal order of the composite empire. In the Trentine and Istria Italian nationalism began to exhibit affinities with Irredentism. Among the Germans of Austria anti-Semitic and Socialistic tendencies showed themselves. The Clericals began to present exorbitant demands. Prince Aloys Lichtenstein sought to use the Conservative coalition for the purpose of passing a school bill that would place primary education under the complete control of the clergy. The interference of the Emperor caused the bill to be dropped, and Prince Lichtenstein retired to private life; but the Ultramontanes waited only for an opportune juncture to renew their effort.

Bohemia was from the beginning the chief battle-ground on which the struggle between Germanism and Slavdom in Austria has been fought out. The elaborate adjustment of the rights and claims of both nationalities was satisfactory to the extremists of neither party. The Young Czech party arose with Radical as well as ultra-Nationalist sentiments. They made demonstrations in commemoration of John Huss, demanded the restoration of the Kingdom of Bohemia by the coronation of the Emperor at Prague and the proclamation of an independent constitution like that of Hungary, under which they could suppress the German language, and betrayed Panslavistic and Russophile leanings. The Young Germans, on their part, ceasing to talk of themselves as Austrians, yearned for incorporation in the German Fatherland. About three fifths of the population are Czech in language and two fifths German; but of the latter a considerable proportion are attached to one or the other of the Czech parties. The Young Czechs, who declared war against the Schwarzenbergs and other feudal magnates and rejected the Conservative and Clerical lead under which previous concessions had been attained won many seats in the Diet, and grew with a rapidity that threatened soon to give them a majority over the Old Czechs.

The time being ripe for a new combination, the Emperor interposed, as he has done before at similar junctures. He definitely rejected the plan of a Bohemian coronation, and induced the Prime Minister and the leader of the German party, Herr von Plener, to seek an agreement. The governing party in Austria, dominated by the Clericals, who were inimical to the Protestant dynasty in Prussia and the excommunicated monarch of Italy, were not altogether friendly to the triple alliance and endangered the success of the combination on which the future of the Hapsburg Empire is staked. For that reason a firmer direction of the foreign policy of the empire could be expected from a new disposition of the political forces and the construction of a Conservative majority by discarding the extreme Nationalist and Clerical elements and replacing them by the Moderate Germans, who had been neglected for ten years. An agreement between the Moderate Germans and the Old Czechs in Bohemia, with new concessions to the Poles, would make the Government independent of exacting Czechs and Ultramontanes. With this object a conference was arranged, which was held at Vienna in January, 1890. A preliminary understanding was reached, on the strength of

which the Germans agreed to re-enter the Bohemian Landtag. The agreement arrived at between the Prime Minister and the leaders of the Old Czech and German parties, Dr. Rieger and Ernst von Pleuer, required to be embodied in laws by the Provincial Diet and the Reichsrath. Between the time of its publication on Jan. 21 and the session of the Landtag that was to give it the final sanction in May the Young Czechs carried on a lively popular agitation against the compromise, which struck a fatal blow to their aggressive nationalism, which aims at making Bohemia entirely Czechish, in that it divides the governing and judicial bodies into Czechish and German sections and partitions the kingdom into judicial, electoral, and administrative districts in which each of the two nationalities will enjoy the use of its own language and separate civilization without coercion or restraint from the other. The Ausgleich embraces the following principal points: 1. The division into Czech and German sections of the Provincial Educational Council, which exercises control, subject to the approval of the Government, over all the primary and industrial and many of the intermediate schools; the division in like manner of the local school boards in districts having a mixed population, and the establishment of minority schools in districts where the parents of forty children who have been five years in a district demand the instruction of their children in their native language. 2. The separation into two national groups of the *Landesculturrath* or Provincial Agricultural Council, which was originally a free association, but has been endowed with official powers, having control of the agricultural schools and societies and the traveling teachers of agriculture and of the distribution of Government and provincial subsidies for the improvement of agriculture. The Germans, not being represented in this body, founded an association of their own, but have hitherto enjoyed no favors or subventions from the Government. 3. The division of the Supreme Court into two national sections. 4. The redistricting of the kingdom for administrative, judicial, and electoral purposes on a comprehensive plan that will afford a legally recognized geographical basis for language regulations. 5. The repeal of the regulation requiring Government and local officials to know both languages. Of the superior judicial officers about one fourth, destined for employment in German districts, are no longer obliged to prove their familiarity with the Czechish tongue. 6. The division of the Bohemian Diet into national sections. Members before taking their seats will have to declare to which national *curia* they belong. On the demand of a certain number of members that a vote shall be taken *curiatim*, each national *curia* votes separately, and a majority in both is necessary for the passage of the measure. The *curia* of large proprietors will be preserved, while the *curia* of the towns and rural communes will be merged in the two national *curia*. In the former provision will be made for a larger German representation by changing electoral divisions and placing allodial property more on an equality with trust estates.

The conference was called together again in April to consider the bills that were framed by

the Government before they were submitted to the Landtag. The popular opposition to the compromise, fostered by Dr. Gregor and the Young Czechs, was such as to threaten the Old Czechs with extinction in the coming elections; and therefore in the Diet a part of them were disinclined to carry out all the arrangements to which they had pledged themselves. The bill for dualizing the Educational Council was passed on June 3, and was promptly signed by the Emperor in spite of the expressed desire of the Czechs that the measures should be sanctioned as a whole. Enough of the former followers of Dr. Rieger voted with the Young Czechs to prevent the passage of any measure requiring a two-third majority. Consequently, the compromise bills were postponed, with a prospect of a continuation of the conflict of nationalities, unless the Germans will abate some of their demands, especially in regard to the use of German as the official language of courts and administrative authorities. Dr. Rieger, once the popular champion of Czech pretensions, but now the object of general opprobrium, announced in July his intention of retiring from public life.

Session of the Reichsrath.—The Clerical party refused the concessions contained in a bill prepared by Minister von Gautsch, and the bishops went beyond the Lichtenstein proposals in a declaration read by Cardinal Schönborn on March 13 in the Committee of the House of Lords demanding Catholic public schools in which Catholic children would not have to mix with those of other confessions. They not only ask that nothing repugnant to Catholics should occur in the course of instruction, but would require it to conform in all respects to the Catholic character of the schools. The right of supervision must be restored to the clergy, and the teachers must be trained in Catholic normal schools and receive their appointments subject to the consent of the ecclesiastical authorities.

The Clerical demands, if it were possible for the Government to yield, would necessitate the revocation of one of the most popular and cherished liberties secured by the Constitution of 1861, that of compulsory and undenominational primary instruction embodied in the educational acts of 1868 and 1869, according to which children of all creeds are taught in the same schools except during the single hour that is set apart every day for religious instruction, at which time those who are not Catholics are at liberty to withdraw.

The Slav majority, on which the Taaffe Cabinet has heretofore depended, carried a bill releasing Galicia from a debt of 106,000,000 florins to the Austrian treasury, although outside Galicia the measure was very unpopular, since all the other provinces have paid the debts of a similar character that they owed. The debt was incurred in 1848 in connection with the creation of a peasant proprietary. The Clericals, who have voted in favor of the other rewards that the ministry has conferred on its Polish supporters, refrained from voting either for or against this measure, which passed by a narrow majority.

Labor Disturbances.—In the beginning of April a strike of the masons and bricklayers was followed by strikes of the shoemakers, tailors, turners, and barbers in Vienna. The servant

girls threatened to cease work unless their demand for higher wages was granted. Meetings were held in the suburbs that were attended by thousands of persons who were voluntarily or involuntarily out of employ. A mass meeting in the Schmelz parade ground was broken up on April 8 by the police, who made many arrests and were stoned by the mob. In the evening a larger crowd gathered in the neighboring suburb of Neu-Lerchenfeld, which, after listening to some speeches, attacked the police, who attempted to check them by firing blank cartridges, broke into the station house and drove out the officials, and then overran Lerchenfeld, Ottakring, and Hernals, stoning the windows of Jewish shopkeepers, plundering the shops of four or five who sold liquors and comestibles, setting one on fire, and only ceasing their depredations when two troops of hussars appeared on the scene. A week or two later occurred a general strike of coal miners in Moravia and Silesia. Demanding an eight-hours' shift and two florins a day, more than 30,000 men left work. Bands of strikers enforced the stoppage of the iron mills at Witkowitz, and soldiers were sent to the scene of the disturbances. All work was suspended in the districts of Ostrau and Karwin. On April 17 a collision occurred between troops and miners at Karwin, and on the following day strikers were bayoneted in Polish Ostrau. In several towns the strikes were followed by anti-Semitic riots and the sacking of stores and dwellings. There were strikes at Prague, Lemberg, Innsbruck, Pressnitz, Meran, Gratz, Marburg, Znain, and Steyr. Workmen in railroad shops and gas works demanded shorter hours, higher wages, and the abolition of piece work. On April 23 a serious anti-Jewish riot occurred at Biala, in Galicia, where workmen plundered the spirit shops and defied the infantry, who tried to intimidate them with blank cartridges and finally fired ball cartridges, killing or wounding fatally 13 persons. On April 29 striking weavers in Frankstadt, Moravia, wrecked a factory, wounded the burgo-master, and resisted the military, the women taking the lead. Great anxiety was felt regarding the eight-hour labor demonstration that was planned for May 1, and elaborate dispositions were made to check possible outbreaks by a prompt evolution of military force. The parade in Vienna, in which 50,000 working men took part, passed off without the slightest disorderly manifestation. On May 19 several strikers were killed by troops at Nürnberg, Bohemia.

Hungary.—The Hungarian Parliament consists of an Upper House, called the *Magnaten-tafel*, and a Lower House, called the *Repräsentanten-tafel*. The House of Magnates is composed of hereditary peers, who pay a land tax of 3,000 florins or over, 40 Roman and Greek Catholic prelates, 11 lay representatives of the Augsburg and Geneva Confessions, 82 life peers, 17 state dignitaries, 3 delegates from Croatia-Slavonia, and princes of the imperial family. In 1889 there were 20 archdukes and 286 hereditary peers possessing the property qualification. The members of the House of Representatives, elected for five years, by direct vote of the people under a slight property limitation, numbered 453 in 1889, including 40 delegates of Croatia-Slavonia.

The ministry, constituted in March, 1890, was as follows: President of the Council, Count Julius Szapary, appointed March 7, 1890; Minister of Finance, Dr. Alexander Wekerle, appointed April 9, 1889; Minister of National Defense, Baron Géza Fejérváry, appointed Oct. 28, 1884; Minister *ad latus* to the King, Baron Béla Orczy, appointed Aug. 12, 1879; Minister of the Interior, Count Joseph Zichy, appointed March 13, 1890; Minister of Education and Public Worship, Count Albin Csáky, appointed in September, 1888; Minister of Justice, Desiderius von Szilagyí, appointed April 9, 1889; Minister of industry and Commerce, Gabriel von Baross, appointed Dec. 21, 1886; Minister of Agriculture, Count Andreas von Bethlen, appointed March 13, 1890; for Croatia and Slavonia, Emerich von Josipovich, appointed Aug. 23, 1889.

Area and Population.—The population of Hungary, including Transylvania, with an area of 108,258 square miles, was estimated for Dec. 31, 1888, at 14,859,288; that of Croatia and Slavonia, having an extent of 10,773 square miles, at 2,098,161; and that of the town of Fiume, occupying 8 square miles, at 22,364; making the total population of the monarchy 16,979,813, or 135 to the square mile. The number of marriages in 1887 was 151,511; of births, 745,080; of deaths, 568,533; the surplus of births over deaths, 175,947. Buda-Pesth had in 1886 a population of 422,557, the next largest city being Szegedin, with 74,355 inhabitants.

Education.—The number of elementary schools in 1887 was 17,786, with 27,119 teachers and an average attendance of 1,621,656 children, not including 447,711 in supplementary schools. There were in 1888 102 gymnasias, with 2,510 teachers and 38,503 pupils, and 33 Realschulen, with 630 teachers and 7,416 pupils. The Minister of Education in the session of 1890 presented a bill to make the study of Greek in the gymnasias optional except for pupils intending to study theology, philosophy, history, or philology. The university at Buda-Pesth in 1889 had 211 professors and teachers and 3,060 students; that at Klausenburg, 81 professors and 525 students; that at Agram, 49 professors and 413 students. There were 38 Roman Catholic schools of divinity, with 1,151 students; 4 Greek Oriental schools, with 279 students; and 14 Protestant schools, with 437 students. The special schools of law numbered 11, with 119 instructors and 709 students. There are 405 special technical institutes, including a high school for mining and forestry, lower and intermediate forestry schools, 6 agricultural colleges, and commercial and industrial schools of various kinds. By the trade law of 1884 every commune where there are 50 apprentices is obliged to provide special instruction. In 1888 Buda-Pesth had 16 schools for apprentices, with 6,459 pupils. In other towns and counties there were 229 such schools, with 38,081 pupils. In Hungary proper the Magyar tongue is used in 7,938 elementary schools, various other languages in 4,801, and more than one language in 2,766. In 1886, the children attending school made 80.41 per cent. of the total number between the ages of six and twelve.

Agriculture.—According to an official report made in 1888, the Crown lands constitute 4.7 per cent. of the soil of Hungary, 26.9 per cent.

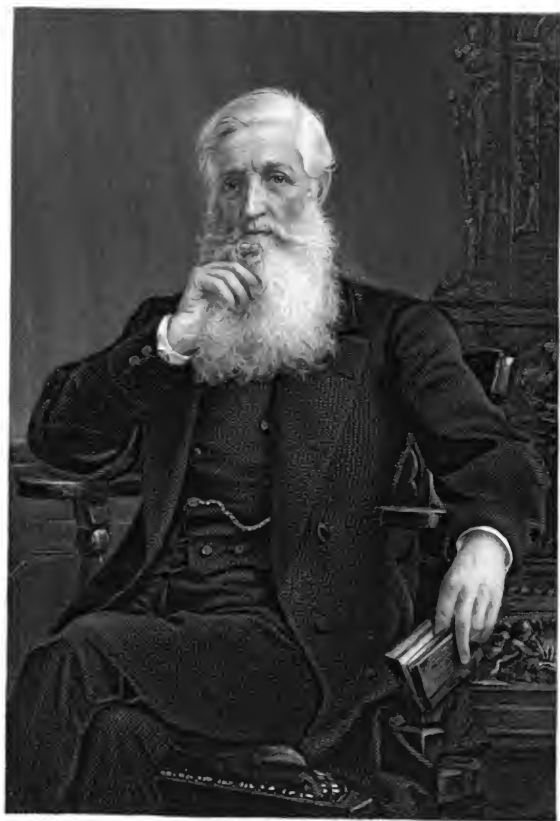
is municipal property, 0.1 per cent. belongs to foundations, 2 per cent. is ecclesiastical property, 0.2 per cent. is held in trust, and 66.1 per cent. belongs in fee simple to private individuals. There are 2,348,107 owners who hold 15,027,889 jochs (1 joch = 1.43 acre) in properties of from 8 to 30 jochs; 118,981 owners of from 30 to 200 jochs, whose aggregate holdings amount to 6,741,000 jochs; 13,757 proprietors, whose possessions range up to 1,000 jochs, aggregating 14,240,000 jochs; 4,695 proprietors of from 1,000 to 10,000 jochs, who have altogether 6,660,000 jochs; and 231 whose estates exceed 10,000 jochs and make 3,939,000 jochs in the aggregate. The area devoted to cereal crops is 8,021,000 hectares, of which 2,776,000 are under wheat, 1,828,000 under Indian corn, 1,126,000 under barley, 1,122,000 under rye, and 1,045,000 under oats. Vineyards occupy 353,000 hectares; the sugar-beet, 89,000; tobacco, 56,000. Meadows and pastures cover 8,427,000, and forests 9,275,000 hectares.

Finances.—The budget estimates for 1890 give the following amounts, in florins, of revenue from the various sources: State debts, 4,319,139; Accountant-General's office, 1,895; Ministry *ad latus*, 250; Ministry of the Interior, 1,059,547; Ministry of Finance, 266,021,133; Ministry of Commerce, 62,527,635; Ministry of Agriculture, 12,282,554; Ministry of Education and Worship, 852,409; Ministry of Justice, 769,117; Ministry of Defense, 271,241; total ordinary revenue, 348,134,920; transitory revenue, 7,124,327; grand total, 355,259,247.

The expenditure for 1890, in florins, under the various heads, was estimated as follows: Civil list, 4,650,000; Cabinet chancery, 74,978; Parliament, 1,236,802; quota of common expenditure, 23,297,673; pensions, 6,372,319; national debt, 120,018,588; guaranteed railroad debts, 11,287,623; administration of Croatia, 6,063,530; Accountant-General's office, 110,100; Minister-Presidency, 335,430; ministry *ad latus*, 54,212; Ministry for Croatia, 38,090; Ministry of the Interior, 11,694,434; Ministry of Finance, 57,246,567; Ministry of Commerce, 45,609,595; Ministry of Agriculture, 12,428,341; Ministry of Instruction and Worship, 6,971,260; Ministry of Justice, 12,324,139; Ministry of Defense, 10,712,585; total ordinary expenditure, 330,824,256; transitory expenditure, 6,399,461; investments, 12,225,383; extraordinary common expenditure, 6,214,516; grand total, 355,663,046.

The Resignation of Tisza.—Koloman Tisza, as the all-powerful Prime Minister of Hungary for more than fourteen years, has won the reputation of being one of the ablest statesmen of the age by lifting his country from a condition of disorganization, bankruptcy, and political impotency, and making it a united, powerful, and prosperous state, occupying the dominant position in the affairs of the Hapsburg Empire. The value of his achievements no serious Hungarian statesman will deny; yet for years past he has been more hated and reviled than any other European minister, and chiefly for the reason that he possessed the unshakable confidence of a great majority of the nation. Men of political talents and classes that formerly exercised a controlling influence, such as the magnates and patriotic Catholics, he disregarded and offended, although he could have easily gained

their support. He surrounded himself with new men, content to act as mere clerks under his direction, whom he shielded when they were charged with dishonorable acts, although his own reputation for integrity was above reproach. The autonomous rights of the counties and the Catholic sentiments regarding education and marriage he trampled upon with uncompromising harshness. Still, the Opposition have not ventured to oppose his policy or commit themselves to the repeal of his acts. Their attacks have been directed against his political methods. They accused him of maintaining his "dictatorship" and keeping together a solid body of parliamentary "mamelukes" by the abuse of official patronage, by bribery and administrative pressure at elections, by the perversion of the organs of justice, and by the arbitrary exercise of executive power. The unpopular army bill gave them the first opportunity to attack him on patriotic grounds. The defect in the bill which relaxed the strict parliamentary control over the army was remedied, and strong men who had formerly acted with the Moderate Opposition were taken into the Cabinet, such as Szilagy, once the leader of that party, and Count Teleky, a representative of the feudal aristocracy. These concessions, which were made in a conciliatory spirit and not from political necessity, impaired his influence with the Austrian court party, which feared that he might be drawn to yield still more to the Hungarian desire for an independent national army, especially since he insisted on the dual character of the army being recognized by giving it the title of "Royal and Imperial." Tisza found that he could not work in harmony with the new ministers. The question on which a rupture occurred was one of little importance. The advanced Opposition, the visionary disciples of Kossuth, who call themselves the party of "1848 and of Independence," discovered that under the naturalization law passed in 1879 Louis Kossuth was about to lose his rights as a Hungarian citizen, as a paragraph of the act provides that a Hungarian settled abroad who for ten years neglects to notify the proper authorities of his intention to preserve his nationality can no longer claim to be a citizen. They demanded that a special act should be passed to keep alive the civil rights of the exile of Turin. Tisza said this was unnecessary, as his acceptance of the honorary citizenship of thirty Hungarian towns was equivalent to the formal notice required by the law. No other member of the Cabinet concurred in this view. The Independence party called for a separate act, and threatened to obstruct the passage of the Honved bill until one were passed. The Premier, without consulting his colleagues, announced that he had changed his mind, and thought that, in consideration of the numbers of Hungarian emigrants settled in America, the paragraph ought to be amended, and therefore he promised that after the Honved bill was disposed of, he would bring in a bill that would have the effect of repatriating Kossuth. When the matter came before the Cabinet, all except two of the other ministers supported Szilagy's objection to amending the law of 1879 and approved a special act in favor of Kossuth. At this stage of the question the exiled patriot wrote



Geo. Bancroft

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Parliament said that the Cabinet would endeavour to secure the confirmation of its own recommendations. This has been re-established, to allow a rational economic policy to reorganize the Hungarian labour situation, and to maintain the legal relations of Hungary toward Croatia. He disclaimed any intention of offering an amendment to the declaration laws, and declared that the Government would continue a Liberal policy, in the support of the existing majority.

born in 1806, was a member of the Imperial Academy of Sciences, and in 1822, after the death of his father, was named to the high post, first took his seat as a member of the Council of Ministers, and in 1826, became Minister of the Interior. He also occupied the portfolio of Finance when Tsar Alexander II ascended the throne in 1855. From 1856 he acted as chairman in 1858, and held the post of Premier, 1857, when he resigned on account of the failure of his proposals for money to be paid to the peasants in case of bankruptcy, and a total abolition of the *mir*. He spent the remainder of his ministerial career in the post of Imperial agent and ambassador to Germany, and to Spain, who is connected with the reform of the currency and the monetary policy of the House of Magazines, returned from the post of Viceroy of Transylvania, and was appointed in 1871 to the post of Count Zaslavsky, a Minister of Agriculture.

4. 2

SCOTT, GEORGE, an American historian, was born in Waco, Texas, Oct. 4, 1866, and died Jan. 17, 1941. He received a Ph.D. from the University of Chicago and was known for his work on the American Revolution. In 1902 he was elected to the American Historical Association. He was a member of the Massachusetts Historical Society and the American Academy of Arts and Letters. He was a member of the American Revolution Bicentennial Committee. He was a member of the American Revolution Bicentennial Committee. He was a member of the American Revolution Bicentennial Committee.

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Geo. Bancroft

a letter of the same burden as his other utterances since the union of 1867, declaring that Franz Josef had no right to wear the crown of St. Stephen and that all the acts of the Hungarian Parliament were void. After that the whole Cabinet agreed that it would be unadvisable to pass a special act declaring Kossuth to be a citizen, and Tisza, on March 7, expressed his determination to resign since the Cabinet opposed his proposition of a general law, and thus put it out of his power to redeem his pledge to Parliament. The King, when he found that no agreement was possible, commissioned Count Julius Szapary, the Minister of Agriculture, to form a new Cabinet. Tisza remained minister in name till the House of Lords passed the budget. The ground on which he retired was understood to be only a convenient pretext. Anxiety was felt as to his future course. The conditions ordinarily governing Parliament would have required not him, who possessed the confidence and adhesion of the majority, but the dissentient ministers to retire. He resigned the presidency of the Liberal party, lest it should suffer from a divided leadership, as in the time of Francis Deák, while retaining his seat in Parliament in order to sustain the new ministry with his influence.

The new Prime Minister in his declaration to

Parliament said that the Cabinet would endeavor to solidify the condition of financial equilibrium that had been re-established, to follow a rational economical policy, to reorganize the Hungarian administration, and to maintain the legal relations of Hungary toward Croatia. He disclaimed any intention of offering an amendment to the naturalization laws, and declared that the Government would continue a Liberal policy, relying on the support of the existing majority.

Count Julius Szapary, the new Prime Minister, was born Nov. 1, 1832. He entered the Hungarian civil service, in which his father was employed in high posts, first took his seat as a deputy in 1861, became Minister of the Interior in 1873, accepted the portfolio of Finance when Tisza reconstructed his Cabinet in 1878, and held it till February, 1887, when he resigned on account of the demands of his colleagues for money to build schools, promote industries, and extend communications. Tisza took charge of the ministry after him, and succeeded in bringing about an equilibrium. Count Szapary, who is connected with the territorial aristocracy and is an hereditary member of the House of Magnates, returned to the Cabinet when Tisza altered its composition in 1889, succeeding Count Szechenyi as Minister of Agriculture.

B

BANCROFT, GEORGE, an American historian, born in Worcester, Mass., Oct. 3, 1800; died in Washington, D. C., Jan. 17, 1891. He inherited an honorable but not a famous name. The family has been long in America, for his ancestor, John Bancroft, arrived on June 12, 1632, and settled in Reading (now Lynn), Massachusetts. Several of the descendants were men of local reputation during that and the next century. Samuel Bancroft, the grandsire of the historian, was a public man holding offices of importance, and renowned for his piety and orthodoxy. Savage says he possessed "the gift of utterance in an eminent degree." It was he who, probably for that reason, was chosen by Jonathan Edwards as his umpire in the unhappy dispute with the Northampton congregation. The Rev. Aaron Bancroft, father of George, was, however, no Calvinist, and his son was accustomed laughingly to remark that his own orthodoxy, for he was a pronounced Calvinist both in politics and religion, was a case of atavism. But there were two things which the son had direct from his father, who was no common man—his literary impulse and a vigorous constitution. The sire was born in 1753, fought at Lexington and Bunker Hill, and was graduated at Harvard College in 1778. During his life of over eighty years—he died in 1839—he was influential in many directions. Honest in purpose and pure in life, he was for more than half a century an honored citizen in the heart of the most enlightened community then in America, setting an example of activity in spiritual and intellectual interests to all about. The scanty income of his pastorate was supplemented in part by farm life and in part by literature. He published occasional discourses, a volume of sermons, and in

1807 a "Life of Washington." His fame as an author rested on this book, which was marked by accuracy of statement and an agreeable literary quality. It was reprinted in England, and was scarcely second in circulation to the contemporaneous work of Marshall. The esteem in which the elder Bancroft was held is shown by the fact that he was a member of the American Academy of Arts and Sciences and in later years president of the American Unitarian Association. There were thirteen children in the family, and the frugal expenditure and simple tastes, which were in part compulsory, in part a matter of principle, combined in one of the most valuable elements that entered into their early training.

George Bancroft was born with the century, on Oct. 3, 1800. His education began under such difficulties as to give him almost from infancy a due appreciation of its value. The only school for a boy desiring a liberal education was two miles from home, and thither the child trudged in all weathers to his daily task. The instruction that he got with such effort was unsatisfactory, and to the kindly assistance of a family friend he owed the acquaintance with Caesar that enabled him to enter Phillips Academy, Exeter, at the age of eleven. He was a member of that famous institution for two years, during which time he was deeply influenced in the direction of a serious life by two men—Abbott, the distinguished principal, and Nathan Parker, the minister at Portsmouth with whom he spent his holidays. Young Bancroft went up to Harvard at the age of thirteen. The years of his college life were profitable in the highest degree. President Kirkland gave him the most tender and fatherly counsel and attention. But his most powerful guide was the study of philosophy.

The instruction was given by means of the then well-nigh universal text-book, "Locke on the Understanding," and was mechanical; but his mind was roused, and when, in the junior year, "Edwards on the Will" fell into his hands he read it with avidity. Like Jacob at Luz, he was awakened to the significance of life, and thereafter, however profound were his studies of the great systems, and he was familiar with them all, he ever avowed his indebtedness to that great treatise and the unbroken fascination of its logic and metaphysics. Every favor that the intellectual aristocracy of Boston could bestow was showered on the boy; but, while he was appreciative and grateful, his path deviated from the beginning and led him into other and larger rooms of mental and spiritual work. He was devoted by his parents to the ministry. Edward Everett, then in Germany, wrote home advising that a choice young man be selected to study at some great university in that land with a view to enlarging and strengthening the teaching at Harvard. Bancroft was second in his class, and everything pointed to him as the proper person. His parents consented, and he entered upon the decisive years of his life.

In the second decade of the nineteenth century Germany was still a distant land. Already it was the Mecca of intellectual pilgrims, and a journey thither was sure to quicken the imaginative powers to uncommon activity. At the outset he devoted himself to the thorough study of the language and literature. A number of fine translations are still extant and attest his scholarship and appreciation. His teachers at Göttingen were Dissen, the Platonist, in philosophy; Eichhorn in New Testament Greek; and Blumenbach in what was then called natural history. He also acquired some knowledge of Arabic, Syriac, and Persian. But these were his avocations, his chief interest lay in the study of history under Heeren, the greatest historical critic of that day and one of the most scientific of all historians, the father of the modern historical method. Two things the young student felt that he carried away from the famous university, the lesson that moderation and a contempt for worry were the marks of a great scholar, and, second, the impulse to historical study. The latter was due in part to Heeren's infectious zeal, in part to the belief, which sprang from his philosophical studies, that the only scientific basis for the study of ethics must be found in an examination of the movement of the human race.

From Göttingen Bancroft went to Berlin, where he was at once received into the charmed circle gathered from all Germany to awaken patriotism in Prussian youth, and lay the foundation for German unity. His patrons were most distinguished: W. von Humboldt, Savigny, F. A. Wolf, Voss, Schleiermacher, and Hegel. The latter's philosophy repelled him as displaying too plainly an apologetic bias. Schleiermacher denied the originality of Hegel, and fascinated Bancroft. With all he was on intimate terms, but he carried away from the capital no influence that can now be traced in his work. On leaving Berlin he went to Heidelberg and studied history for a time with Von Schlosser, a painstaking investigator without either spontaneity or originality.

The autumn and winter of 1821-'22 were spent in an extended European tour. Switzerland, Italy, and France, through their great men and historical associations, yielded up to the traveler rich stores of experience. The laborious sight-seeing that he did in the three months of his stay in Rome displays the character of the man. "Rising at dawn," says a biographer, "he breakfasted by candle-light and hurried forth in the early morning—churches, galleries, ruins, antiquities, he devoured everything with his eyes, stopping only for a frugal luncheon of a few cakes or a little fruit, and dining at night-fall as his means would allow. Then hurrying to his room he read, till the small hours, history and the masterpieces of Italian letters, but in particular Dante." But the sight-seeing was the least of his remarkable experience. During a Göttingen vacation, four years after the Battle of Waterloo, he had met Goethe, then in his seventieth year, for the first time at Jena, and he had had a second interview at Weimar in 1821, conversing at length about politics, art, and literature, the German poet taking pains to explain, what was probably uppermost in his mind, that he thought Byron's "Manfred" founded on his own "Faust." At Paris Bancroft met and associated with Consin, Constant, and Alexander von Humboldt. In Milan he knew Manzoni, and in Rome he was intimate with both Niebuhr and Bunsen. At Leghorn he met Byron twice, once on the flagship of the American fleet then at anchor in the harbor, and once in the villa at Monte Nero, where he also saw the Countess Guiccioli. The interest of all these famous men in the young American was real and appreciative.

In 1822 Bancroft was again in America. Yielding to his father's desires, he tried to preach, but his heart was not in the ministry, and he felt the few sermons which he wrote to be rather in the nature of literary exercises than gospel messages. The place of tutor in Greek at Harvard was offered to him and accepted. To one fresh from larger fields, the intellectual life of Harvard was uncongenial. Moreover, he had thus far been dependent on an uncle and a brother. During 1823, therefore, a plan was formed for founding the Round Hill School at Northampton. In the following autumn, in partnership with J. G. Cogswell, who had been arranging and cataloguing the Harvard library, he made the venture. The school made a great name, but while Bancroft was enabled to pay his debts and earn a fair living, there was no outlook for such pecuniary reward as would bring independence. The plan was admirable: a fine estate to make popular as much outdoor life as possible; good, trained teachers to stimulate rather than drill; close companionship between masters and boys; no direct emulation, no corporal punishment. In this attempt to elevate secondary education to the high plane on which it belongs the boys were happy—witness the paper of the late T. G. Appleton—but the masters were not; there was friction in the business management, and one of the masters, writing steadily for the "North American" and Walsh's "American Quarterly," was longing for literary and political activity. He also made during that time a translation of Heeren's great work, "The Politics of Ancient Greece," which was favorably

reviewed in the "Edinburgh," and by Edward Everett in the "North American." It was pirated in England, without even a mention of the translator's name. During these years Bancroft cut loose in politics from the traditions of the Harvard circle, and became the foremost man in the councils of the Democratic party in Massachusetts. But he had steadily refused office. The first volume of his "History of the United States" appeared in 1834 and the second in 1837, while he was Collector of the Port of Boston, to which office President Van Buren appointed him. His adherence to the Democratic party was based on philosophical and theoretical considerations, but, unlike many men of similar constitution, he was not too nice to enter the field of practical politics.

He was the first of that line of scholar-politicians who have graced public life in America, and of whom Massachusetts has furnished the largest number. His political career in outline was this: In 1830 he was elected to the Legislature, but without his own knowledge or consent. Out of deference to the strong Whig sympathies of Mrs. Bancroft and her family he declined to serve. Again in 1831 he was requested to accept the nomination for Secretary of State in Massachusetts, but he declined. Mention has already been made of his service as collector in Boston. In 1844 he was nominated for Governor on the Democratic ticket, but, although he received more votes than had hitherto been cast for any Democrat, he was defeated. In 1845 he became Secretary of the Navy under President Polk, and from 1846 to 1849 he was minister to Great Britain. In 1866 he was selected by Congress to deliver the eulogy on President Lincoln, and in 1867 he was sent first as minister to Prussia, being successively accredited to the North German Confederation, to the Free Cities, and to Bavaria, and finally to the German Empire. He voluntarily retired from public life in 1874. From that time until his death, in 1891, he spent the summers in Newport and the winters in Washington. In the latter place he was continuously active as an adviser in many important questions of public policy.

While head of the custom-house in Boston he appointed to office two of the finest spirits in the history of American thought and letters, Nathaniel Hawthorne and Orestes Brownson. They were excellent officials, the former being eminent in the punctilious performance of his duties. He served for something over two years, and resigned against the wishes of the collector. Bancroft was an earnest advocate for the annexation of Texas, pleading in the newspapers for the extension of the "area of freedom." Although he was roundly abused at the time by men of both parties, events have justified his opinion. Texas, as an independent State, could have imported slaves. Her autonomy would have made impossible the acquisition of California, and might have seriously impaired the efforts of the country to suppress the rebellion. When his name came before the Senate for confirmation to Polk's Cabinet, Archer, of Virginia, secured a postponement, and Bancroft was called to account for his published articles on slavery. Allen, of Ohio, examined them all and made a vehement speech in support of their doctrines. The vote for

confirmation was unanimous. Hitherto the newly appointed midshipmen had had some theoretical instruction at sea in addition to their practical training. The new Secretary wished to found a school for naval officers like that which already existed for the education of army officers at West Point. An appropriation seemed hopeless. He, therefore, with the approval of the President and his colleagues, ordered the instruction hitherto given at sea to be given for the time being at Annapolis, and, acting under his powers, sent thither an officer to superintend, the more capable of the existing teachers to be professors, and the young officers to attend as pupils. Examinations were ordered both for admission and promotion. When, therefore, Congress met, the school was actually in existence. Application was made for money to repair the building that the War Department had assigned to the Navy for the purpose. Congress passed the bill, and the Naval School was founded.

Although her independence had already been recognized by both Great Britain and France, Texas was still claimed by Mexico. California, nominally under Mexican rule, could be safely governed only by Americans, so great were the disorders of Mexican administration. It was believed that Mexico would declare war on account of the annexation of Texas. In June, 1845, therefore, Bancroft gave the orders that led to the occupation of California. In 1846 he was also for a month acting Secretary of War, and through him were sent the orders to Zachary Taylor for the invasion of the territory in dispute between Texas and Mexico which brought on the Mexican War. The same year his mission to England began. The Northwestern boundary question had been settled while he was still in the Cabinet, and he had ample time for historical studies and social life. His reputation as a man of letters being already established, the historical treasures of the great houses were put at his disposal, and the years of his London life were a part rather of his literary than of his political career.

From 1849 to 1867 Bancroft lived in New York, and was absorbed in authorship. His earlier political life had fallen in the days when the Democratic party was but in part subservient to the slave-holding oligarchy of the South. He escaped the evil days of its entire devotion by his retirement from public life. But at the outbreak of the war he no longer held his peace, and was an ardent, patriotic War Democrat. Twice during the contest he delivered public addresses, one at the invitation of the city that was his home, in which he destroyed the flimsy constitutional pleas for slavery; and in his eulogy on Lincoln he but repeated views concerning its fatal influence which he had urged on members of Congress before its formal abolition. "The path of wisdom, of patriotism, of peace, of future success," he wrote to Samuel S. Cox in January, 1865, "leads now through the abolition of slavery by an amendment of the Constitution." On the accession of Johnson he vigorously supported the President's reconstruction policy, and in 1867 was sent as the United States envoy to Berlin.

Two remarkable diplomatic achievements give distinction to the last period of his public life—the naturalization treaties and the successful conduct of the San Juan arbitration. The former

marks an epoch in the history of political theories. Hitherto Prussia, like England, had held and practiced the doctrine, once a citizen always a citizen. Now she was called on to admit the right of expatriation, the renunciation of old allegiance, and the acquisition of a new and exclusive citizenship. Such a course was also contrary to the policy of the War Department, as it gave ample opportunity for young men capable of military duty to emigrate. But the young men emigrated whether or no, and for some years the practice of seizing those who ventured to return, and forcing them into the ranks, had proved burdensome and exasperating. Bismarck was therefore disposed to listen to the suggestions of a larger policy. He desired to be on good terms with the United States, and as nearly every family in Germany had members in America he was anxious that those who remained might not be disaffected by the harsh treatment of their relatives, who might return from time to time to renew the ties of affection which bound them to parents and brethren. So he yielded on condition that citizenship in the United States should be *bona fide*, and be proved to be so by residence there and continuous domicile elsewhere than under the German flag. The principle of expatriation once established, England renounced her claim to indefeasible allegiance, and the new principle is now prevalent throughout civilized lands.

In the treaty concerning the Northwestern boundary, negotiated by Polk, there was an ambiguity concerning a portion of the line. This enabled interested persons to reopen the question. After some negotiations it was agreed that this should be one of the questions submitted to arbitration. But the terms accepted were unfavorable to the United States, consenting, as they did, that if there was uncertainty as to the true line, the arbiter himself might establish a boundary of compromise. Bancroft took the initiative against this course. The Department of State at length determined that the method of arbitration should be for each side to formulate its claim, that these should be submitted to the arbiter for a decision as to which was right, and that the Emperor of Germany should be the referee. To Bancroft alone was left the whole matter of the preparation of the American argument. The first presentation of the case and the reply to the British were every word his own, and the completeness of the plea was due to his early knowledge of the whole affair. As is well known, the decision of the Emperor of Germany was unreservedly in our favor.

The public life thus delineated in outline would in itself have been a career for most men. Its successful achievements would entitle any American to the admiration and respect of his countrymen, securing for him a place in the country's history. But in the case of Bancroft it was all incidental and disciplinary rather than essential. His true renown is not that of a maker, but of a writer of history. The statesman and diplomatist in him were ever ancillary to the historian. In September, 1823, appeared from the University Press of Cambridge a small volume of his poems, written partly in Europe, partly after his return. It was not remarkable except for its biographical suggestions, showing the ardor of both his ambition and his patriotism. In later years the

author obtained and destroyed many copies of the edition, so that the little volume is now very rare. One stanza is the key to Bancroft's whole life:

The weary pilgrim to his home returns;
For Freedom's air, for Western climes he burns.
Where dwell the brave, the generous, the free,
Oh! there is Rome! No other Rome for me.

His motive power was an abiding faith in the democracy of the United States as the destined carrier of a great focal civilization following those of the Orient, of Greece, of Rome, and of Europe. Without this key no one can understand either his personal character or his work, which is as much the expression of a prophecy as the record of a fulfillment.

The earlier articles that Bancroft wrote for the reviews were also literary—on subjects connected with the classics of Greece and Rome or of Germany. But in January, 1831, he published in the "North American Review" a discussion of the Bank of the United States, and in 1835 an essay on the "Documentary History of the Revolution." The first volume of his "History of the United States" had appeared the previous year. These two facts show how earlier training and purpose had culminated in work. Through the study of philosophy he was led to the belief that there was a collective human will, in which personal doubt, passion, and sentiment had been canceled. The unfolding of this must give the only scientific basis for the study of morals. But he believed also, as he repeatedly said to the writer, that if there be the same conservation of energy in the moral as in the physical world, there must also be a universal and eternal power, that this eternal reason shorn of human imperfections is the infinite, perfect, enduring Logos. The incarnation was the philosophical justification of Christianity, because in it the finite knows the infinite. Bancroft in philosophy was akin to Kant and believed that the Königsberg philosopher had met the skeptics on their own ground and proved the existence of a *priori* truth and of a *priori* synthetic judgments. History, therefore, was to him the most important discipline of philosophy. He viewed it, long before the men who now claim the merit of the discovery, as a unit; he believed its forces to be constant, and looked on their manifestation as parts of an organic whole. The background is the history of the race, but against it the individual moves and acts with perfect completeness and liberty.

He believed also in the great importance of original authorities. In this he was the pupil of Heeren. He has been criticised for the strong emphasis laid on documentary material, but only by scientists unfamiliar with the fundamental rules of his critical apparatus. These were two—carefully distinguish between original authority and historical memorials or aids; represent every man from his own standpoint, judge him from your own. Hence the test of the historian is threefold—when, where, by whom. An original authority concerning a fact either acted in it or saw it or heard from another who performed or beheld. An historical aid or memorial is, for instance, a decision of the Supreme Court concerning the interpretation of the Constitution.

Unlike later historians, however, he did not

believe in making an evolutionist's allowance for relative values in the testimony of men of different ages. The address entitled "The Necessity, Reality, and Promise of the Progress of Mankind," which he delivered in 1854 on the semi-centennial anniversary of the New York Historical Society, is the most perfect statement of his historical creed, and he held it to the close of his life. Therein he declares that "every member of the race is in will, affection, and intellect consubstantial with every other"; that "truth knows nothing of the succession of ages, . . . neither does morality need to perfect itself, it is what it always has been and always will be. . . . The progress of man consists in this, that he himself arrives at the perception of truth. . . . The many are wiser than the few; the multitude than the philosopher; the race than the individual; and each successive generation than its predecessor. . . . Since the Mediator is from the beginning, he exists for all intelligent creatures not less than for all time. . . . Truth as discerned by the mind of man is constantly recovering its primal luster and is steadily making its way toward general acceptance. . . . The collective man of the future will see further and will see more clearly than the collective man of today, and he will share his superior power of vision and his attainments with every one of his time. The organization of society must more and more conform to the principle of freedom. This will be the last triumph, partly because the science of government enters into the sphere of personal interests and meets resistance from private selfishness; and partly because society, before it can be constituted aright, must turn its eye upon itself, observe the laws of its own existence, and arrive at the consciousness of its capacities and relations. . . . The permanent establishment [of republican Government] presupposes meliorating experience and appropriate culture; but the circumstances under which it becomes possible prevail more and more. . . . Remember that the principles of justice and sound philosophy are but the inspirations of common sense and belong of right to all mankind. Carry them forth, therefore, to the whole people, for so only can society build itself up on the imperishable groundwork of universal freedom."

Of course, it is a debatable question how far Bancroft carried out this admirable philosophy of history in practice. In the matter of style he gave himself infinite pains. His vast reading was largely with a view to acquiring perfection of form, and it was no uncommon thing for him to write and rewrite an important passage over and over again, as often frequently as eight times. A well-known paragraph on the Mississippi river in the eighth chapter of the ninth volume is an example. In fact, the entire book was written again and again, partly with reference to the deliberate and calm consideration of facts and judgments, but with a view also to beauty of form; and yet he often errs on the side of over-ornament and Ciceronian balance, leaving too frequently the impression of labored floridness rather than of sparkling brilliance.

He was true from first to last in his devotion to original authorities. His residence in England as minister was devoted throughout to the collection of hitherto unused materials from the

archives of the historic families and of the English and French foreign offices. In the end his collection of manuscript sources became enormous. The first volumes of the history were received with enthusiasm, pirated in England, and translated into Danish, Italian, German, and French, both with and without the author's permission. He was therefore admitted in England to the highest literary and social circles and given every possible opportunity for access to private and public papers. It was no wonder that he was tempted to put an exaggerated value on what he thus obtained. The real value was very high. Most of the fourth and fifth volumes were written in London, and they set forth as never before the elemental importance of the movements of thought in Europe and the colonies that produced the American Revolution. It is an old story now, but he was the first to set forth the representative character of our career in the history of epochal social movements. Undue importance is sometimes given to tendencies which though apparent are not strong, to diplomatic rumors, to the hasty conclusions of contemporary writers.

In certain instances also Bancroft has treated his documents as if they were accessible to all the world for comparison with his text. From long and prosy documents he has compiled, perhaps on the Thucydidean model, spirited and admirable *résumés*, which are given as if thus actually written. Sometimes also the matter between quotation marks is so selected and rearranged as to be rather his own than that of the first writer. Misapprehension of a minor kind has several times arisen on both these grounds; but it has never been shown that he falsified the ideal truth of history, and twice he has printed volumes of the correspondence with which he worked. Two were printed separately about 1875, and the second volume of his "History of the Constitution" is largely made up of similar material. In both instances the text is an exact reproduction of the copies made for him by careful copyists in the archives or of the documents in his possession.

It is also true that material in the field of American history was accumulated during Bancroft's lifetime which he did not use; but he nowhere claimed finality for his work, and the laborious years of his old age were entirely occupied in weaving into his narrative what he had, and no one else had, that he might not die before it was given to the world. It is not conceivable that he could have done more than he did in the time he had. With another existence he might also have appropriated the labors of others, minute, boundless, and untiring as they are; but his own were no less so.

But no one can deny that Bancroft successfully fulfilled the lofty and philosophical conception of his task—a task comparable to any undertaken by the greatest historians, and carried out with a splendor of equipment in material, in time, and in judicial ability which has made the nation a sharer of his world-wide renown. The generalization of the philosopher, the insight of the strategist, the acuteness of the statesman, all appear in his pages. No less amazing is the perennial enthusiasm that plays over the whole narrative, and is as youthful at the close as in the first volume. Without it no one could fitly por-

tray the origins of America, nor the heroic and epic element in her history, and it has appeared on no other page. His style is both graphic and salient, his maxims sound, and his spirit elevated. Finally, he has the truest mark of greatness—he is a man of his own time, neither a dreamer of Utopias nor a *laudator temporis acti*. Full of appreciation for the past and with infinite faith in the future, he comprehends and uses the value of the present age for the instruction and consolation of the ignorant and faltering and for the strengthening of the wise. He has perfect confidence in the common sense of our own day.

When Bancroft left Berlin, where his house had been a meeting place for the learned of the whole empire, the Royal Academy gave him a farewell dinner and the universities of Berlin, Munich, and Heidelberg united in a farewell greeting. "Your name," they said, "is the intellectual possession of us all. You have contributed to the more complete understanding of the problems set for a free people in that, as one of the foremost historians, you portrayed those immortal deeds which led to the rise of a great free state beyond the sea. . . . You combined the spirit of true scientific procedure with the insight of a statesman."

In person Bancroft was slight and graceful, but dignified and stately. From earliest life he had enjoyed the best society of all countries, the aristocracy of birth and letters in America, England, Germany, and France. He had neither the mask of the diplomat nor the instinctive suavity of the politician nor the grand air of the official. His spirit was mirrored in a manner grave, simple, and sometimes formal. With the certainty of experience was sometimes mingled a timidity that was almost feminine. He accumulated by thrift and sobriety a considerable fortune. His hand was ever open in unceasing generosity to the poor, and in hospitality of a simple but elegant kind to his friends. Rising early, often at five, he studied until after two, taking breakfast and luncheon from a tray on his worktable. The afternoon was devoted to outdoor life, two hours at least in all weathers, and to social duties. Dinner was a function, and the evening was sacred to sociability.

His later years were spent at his home in Washington during the winter, and at his cottage near Newport in the midst of his great and famous rose-garden during the summer. He died in Washington on the evening of Saturday, Jan. 17, 1891. His health had been perfect until the preceding Thursday, although for some months his mind had been failing. At the great age of ninety he had as many friends as most men at fifty; to the end he enjoyed the distinction of being first everywhere, in all society. The Senate made him free of its floor, for him the Century Association created the dignity of honorary member. Monarchs sent wreaths for his burial. He made his own people conscious of their high mission, and his name should long survive. In his last years he revised his "History of the United States," and re-issued it in six volumes.

BAPTISTS. Statistics of the Regular Baptists.—The American Baptist Year-Book for 1890 gives the following statistics of the regular Baptist churches in the United States and the world: In the United States: Number

of associations, 1,353; of ordained ministers, 21,175; of churches, 33,583; of members, 3,070,047; number of baptisms during the year, 144,575; number of Sunday schools, 17,606, including 132,186 officers and teachers and 1,211,606 pupils; value of church property, \$58,162,367. Amount of contributions reported: For salaries and expenditure, \$6,900,266; for missions, \$1,092,571; for education, \$228,470; miscellaneous contributions, \$1,977,952; total, 10,199,259. In all North America, 34,761 churches, 21,948 ministers, 3,202,292 members, and 148,727 baptisms during the year; in South America (Brazil), 6 churches, 8 ministers, 229 members, and 37 baptisms; in Europe, 3,940 churches, 2,779 ministers, 404,782 members, and 4,084 baptisms; in Asia, 743 churches, 433 ministers, 75,844 members, and 5,313 baptisms; in Africa, 44 churches, 66 ministers, 3,039 members, and 109 baptisms; in Australasia, 186 churches, 112 ministers, and 15,196 members. Total, 39,690 churches, 25,346 ministers, 3,701,382 members, and (so far as reported) 158,270 baptisms.

I. Regular Baptists in the United States.

—*American Baptist Publication Society.*—The sixty-sixth annual meeting of the "American Baptist Publication Society" was held in Chicago, Ill., May 21 and 22. The Rev. Thomas Armitage, D. D., presided. The total receipts of the society for the year had been \$651,005, or \$24,145.27 more than the receipts of the previous year. Of this sum, \$503,650 had been in the book department, \$125,115 in the missionary department, and \$22,240 in the Bible department. Ninety-one new publications had been issued, and upward of 33,000,000 copies of books, tracts, pamphlets, and periodicals had been printed. One hundred and thirty-two colporteurs or missionaries had been employed; 820 grants, of 43,580 copies of the Scriptures or of parts, had been made, in twelve languages; 719 persons baptized, 53 churches constituted, 545 Sunday schools organized, and 252 aided with gifts, 471 pastors and ministerial students aided with grants for their libraries, and 47,248 families visited.

American Baptist Home Mission Society.

The fifty-eighth annual meeting of the American Baptist Home Mission Society was held in Chicago, Ill., May 26 and 27. The Hon. C. W. Kingsley presided. The society had received during the year from all sources \$449,445, of which \$15,139 had been contributed through the women's societies. Eight hundred and thirty-three missionary laborers had been employed in 47 States and Territories, Ontario, British Columbia, Manitoba, Alaska, and 6 States in Mexico—viz., 400 among Americans, 190 among foreign populations, and 243 among the colored people, Indians, and Mexicans. They represented 13 nationalities or peoples. They had supplied 1,659 churches and out-stations, had 844 Sunday schools under their care, and returned 7,371 members received into the mission churches. Sixty-three new mission stations had been taken up, of which 19 were among foreign populations and Mexicans. The number of Baptist church-members among foreign populations was given as follows: Germans, 14,500; Swedes, 15,500; Danes and Norwegians, 4,500; and French, 500. The increase was estimated at about 2,000 mem-

bers a year. The society co-operates with the colored Baptist conventions of most of the Southern States in the support of general State missionaries and of missionary pastors. Seventeen missionaries—7 white and 10 Indian—were employed among the Indians in the Indian Territory, and a missionary to the uncivilized Indians was supported by the Territorial Convention. Several baptisms of Chinese converts were reported in California and Oregon. Twenty-three missionaries and teachers, all but 3 of whom were native Mexicans, were employed in Mexico. They returned 14 churches, 379 members, and 76 baptisms. There were several stations at which churches had not been organized, and stated services at a number of towns. Most of the churches were organized into an association. In its church edifice department the society had aided 87 churches by gifts and loans. This department had a loan fund of \$119,720, to which the receipts for the year had been \$6,658; and had received for its benevolent fund \$34,662. The schools sustained by the society consist of 20 colleges, seminaries, and day schools for colored people, with 166 teachers, 64 of them colored, and 2,379 pupils; 4 schools for Indians, with 18 teachers and 334 pupils; 6 Chinese mission schools; and 2 schools in Mexico, with 2 teachers and 110 pupils; in all, 32 schools, with (exclusive of the Chinese mission schools), 186 teachers and 2,823 pupils.

The meeting approved and adopted the resolutions of the Southern Baptist Convention recommending the appointment of a commission of scholars of different denominations to consider and seek to determine what is the teaching of the Bible on leading points of difference of doctrine and polity between the denominations; approved the objects of the National League for the Protection of American Institutions, which is endeavoring to secure the insertion of an amendment to the Constitution of the United States forbidding the appropriation of money by any State to the support or aid of any institution, society, or undertaking which is wholly or in part under sectarian or ecclesiastical control; and adopted a petition to Congress forbidding Sunday work in the mail and military service of the nation and in interstate commerce.

American Baptist Education Society.—The American Baptist Education Society was formed in 1888 for the promotion of Christian education under Baptist auspices in North America. The second annual meeting was held in Chicago, May 27. The Hon. G. A. Pillsbury, of Minneapolis, Minn., presided. The ordinary receipts of the treasurer for the year had been \$6,583, applicable to expenses. Special appropriations had been definitely made to several institutions of \$51,400, conditioned on the raising of certain supplementary amounts by the friends of those institutions, rising in the aggregate to \$300,000; adding the similar appropriations for the preceding year, the amounts were swelled, for the two years, to \$83,400 and \$520,000. Further than these, \$112,399 had been raised toward a fund of one million dollars—for which Mr. John D. Rockefeller had offered \$600,000 on condition of the churches contributing \$400,000—for the establishment of the University of Chicago. A charter had been obtained for the society from the Legislature of

the State of New York. It was intended to pursue the policy of discouraging the undue multiplication of institutions attempting collegiate instruction, and in general to foster but one college in a State. In the New England States the policy of the Executive Board was to strengthen, and if possible to multiply, the secondary schools and academies.

American Baptist Missionary Union.—The seventy-sixth annual meeting of the American Baptist Missionary Union was held in Chicago, Ill., May 23. The Rev. G. W. Northrup, D. D., presided. The treasurer reported that the year's receipts for current expenses had been \$440,788, while the whole amount of the appropriations had been \$440,556. Thirty-three new missionaries had been put into the field, and 35 were about to go out. Three new foreign stations had been established. The missionaries reported 11,061 baptisms, of which 5,539 were in the heathen and 5,522 in the European missions. The reports of the work in the field showed that there were in the missions to the heathen—in Burmah and the neighboring states, India, China, Japan, and the Congo—64 stations, 1,382 out-stations, and 331 missionaries (195 of whom were women), with 68,270 members; in the European missions, 917 preachers, 707 churches, and 70,003 members; in all the missions, 331 missionaries (including laymen), 1,736 preachers, 1,361 churches, and 138,293 members. An increase was shown from the previous year of 52 missionaries, 45 churches, and 3,980 members. There were in Burmah 372 self-supporting independent churches and 262 self-supporting schools in the villages, etc., taught by natives. A committee was appointed to consider the subject of arranging with the English and other Baptist foreign missionary societies for a centennial celebration in 1892 or 1893 of the beginning of the mission of William Carey, which was also the beginning of Baptist missionary enterprise.

Woman's Missionary Societies.—The annual meeting of the Woman's Foreign Missionary Society, Boston, was held in Portland, Me., April 15. Its receipts for the year were returned at \$99,007 and its expenditures at \$99,170. Eight thousand dollars of the surplus had been invested. The society employed 48 missionaries and 62 Bible women in the foreign field, and had 8 missionaries under appointment.

The receipts of the Woman's Baptist Missionary Society of the West were returned at its annual meeting in April as having been \$34,674 and its expenditures in the foreign department as \$34,588. The addition of the home expenditures caused a deficit in the treasury of \$5,406. Special mention was made in the report of the success of work against intemperance and advance of Bible study among the Paku Karens of Toungoo, Burmah; of evidences of progress at Henzada, Burmah; Norogong, Assam; Ongole, India; and in the Congo mission at Palaballa, while additional force was needed at other stations in Burmah and China. The society employed in 1889 30 missionary workers in Burmah, India, China, Japan, and Africa, all of whom are included in the lists of the American Baptist Missionary Union.

The Women's Baptist Home Mission Society, Chicago, received in the year 1888-'89, \$39,774;

employed 75 missionaries among foreign populations, Indians, Mormons, and negroes; sustained a Chinese school at San Francisco, Cal., and a training school at Chicago, and published a monthly periodical, "Tidings." It co-operates with the American Baptist Home Mission Society and Baptist conventions in frontier States.

The Women's American Baptist Home Mission Society, Boston, received in the year 1888-'89, \$28,346, and expended in salaries of missionaries and teachers and payments to beneficiaries \$25,505. It employed 37 agents.

American Baptist Historical Society.—The American Baptist Historical Society, Philadelphia, reported the amount of its building fund in May, 1889, as \$2,360. It had also \$1,500 of other invested funds. The library contained 7,468 volumes and a large number of manuscripts, some of them of very great value. Special attention was given to the collating of association and convention minutes, of which the society had now 218 bound volumes.

Baptist Ministers' Aid Society.—The Baptist Ministers' Aid Society of Ohio, Indiana, Illinois, Wisconsin, and Michigan, organized in 1883, maintains a home at Fenton, Mich., for aged, infirm, and destitute Baptist ministers and missionaries, and the wives, widows, and orphans of such residing in the States named in its title. Eleven persons had been received into the home in 1889, and \$11,000 had been contributed to an endowment fund. The home consists of a four-story building with twenty acres of land, valued at \$50,000, to which a cottage has been added.

Southern Baptist Convention.—The churches represented in this body include 1,194,520 white members, with 15,894 churches and 8,548 ordained ministers, and returned 17,507 baptisms in 1889. There are besides within the same territory 1,129,547 colored Baptists having their own separate ecclesiastical organizations. The Southern Baptist Convention met in Fort Worth, Tex., May 9. Judge Jonathan Haralson, of Alabama, was chosen president. The receipts of the Home Mission Board had been \$167,576, of which \$68,298 had been collected from the States, \$61,953 raised and expended by co-operative bodies on local fields, and \$37,325 raised by co-operative societies for building. The board had employed 371 missionaries, who returned 1,182 churches and stations, 267 churches and 336 Sunday schools organized, and 4,477 baptisms as results of their work during the year. Of the missionaries, 270 were laboring among the native white people, 50 among the colored people, 30 with foreign populations, including Indians, and 21 in Cuba. The board had assisted also in the support of 45 colored missionaries. Five white ministers had been employed as theological instructors among these people in Georgia, Florida, Alabama, and Mississippi. The mission in Cuba, which is under the charge of the Home Board, returned 1,700 members, with an average attendance of about 700 pupils in the day schools and 2,000 in Sunday schools. Twenty young men were preparing for the ministry, and a school had been organized for their instruction. The woman's societies had contributed \$10,015 to the funds of this board. The receipts of the Foreign Mission Board had been \$109,174, of which the woman's missionary societies had

contributed \$21,223. The missions—in China, Africa, Italy, Brazil, Mexico, and Japan—returned 37 main stations, 124 out-stations, 78 missionaries (45 of whom were women), 29 ordained native missionaries, 57 native helpers, 62 churches, 2,213 members, with 409 baptisms during the year, and 29 schools with 575 pupils. Forty new missionaries had been sent out during the past twenty months. The report of the Theological Seminary showed that it had \$300,000 of endowment funds. The trustees of the institution asked for \$100,000 additional for a building. A committee was appointed to confer with the Northern Baptists in reference to a celebration of the centennial of the establishment of Baptist foreign missions. A special committee was appointed to have the care of Sunday-school interests and supervise the publication of a lesson series. The following resolutions were adopted concerning the determination of fundamental points of belief:

Whereas, The different denominations have lately been giving unusual attention to the subject of Christian union; and

Whereas, It is conceded to be a great desideratum that Christians should agree in all important points of doctrine and polity; and

Whereas, There is a standard recognized as authoritative by all Christians, viz., the Bible; therefore,

Resolved, By this society, representing nearly 2,000,000 communicants, that we recognize the gravity of the problem of bringing different denominations to see alike on important subjects concerning which they now differ, and that we recognize in the teachings of Scripture the only basis on which such agreement is either possible or desirable; also

Resolved, That we respectfully propose to the general body of our brethren of other denominations to select representative scholars, who shall consider and seek to determine just what is the teaching of the Bible on leading points of difference of doctrine and polity between the denominations, in the hope that they can at least help to a better understanding of the issues involved; and

Resolved, That we heartily favor that the results of such proposed conference of representative scholars be widely published in all denominational papers, so that the Christian public can be thoroughly informed concerning these results, and that progress may be made toward true Christian union.

Baptist Premillennial Conference.—A conference for Bible study of Baptist ministers holding, besides the generally accepted evangelical doctrines, the doctrine of the premillennial advent of Christ, was held in Brooklyn, N. Y., Nov. 18 to 21. The Rev. A. J. Gordon, D. D., of Boston, presided. The discussions, including addresses, the reading of papers, and extemporaneous remarks, bore upon a variety of questions connected with this doctrine. The aim of one paper was to show that premillennialism had been the faith of Baptists from the beginning. It was said at the close of the meeting that two hundred pastors in different parts of the Union had expressed sympathy with the premillennial movement; that a permanent organization was to be effected, a treasurer appointed, and funds collected.

Baptist Church Congress.—The ninth annual meeting of the American Baptist Church Congress was held in New Haven, Conn., Nov. 11, 12, and 13. The Hon. Francis Wayland, of New Haven, presided. The programme of the papers and discussions was as follows: "Proposed Bases of Christian Union," Rev. T. T.

Eaton, D. D., Louisville, Ky.; Rev. C. D. W. Bridgman, D. D., New York; Rev. E. T. Tomlinson, Elizabeth, N. J.; Rev. W. D. McKinney; Rev. W. F. Elden. "Municipal Government," Rev. F. J. Bellamy, Boston; Col. A. S. Bacon, Brooklyn, N. Y.; Rev. Leighton Williams, New York. "International and Independent Systems of Sunday School Lessons," Rev. Warren Randolph, D. D., Newport, R. I.; Rev. E. A. Woods, D. D., Cleveland, Ohio; Rev. E. M. Poteat, New Haven, Samuel Colgate, Hon. Francis Wayland, Rev. F. J. Bellamy, Rev. George Bullen, D. D., Rev. A. S. Hobart, D. D., Rev. C. H. Spalding, Rev. W. G. Fennell, Rev. J. H. Mason. "Race Problem of the South," Prof. J. C. Long, D. D., Chester, Pa.; Rev. H. L. Wayland, D. D., Philadelphia; Rev. Daniel Wilsheer, of the Bahama Islands; Rev. O. B. Strayer, Rev. George A. Jackson, Rev. J. T. Dickinson, Rev. E. W. Hunt. "Enlarged Church Work in Cities," Rev. A. G. Lawson, D. D., Boston; Rev. Russell H. Conwell, Philadelphia; Rev. John Humpstone, D. D., Brooklyn, N. Y.; Rev. S. W. Duncan, D. D.; Principal Walter Scott; Rev. W. C. Bitting; Rev. Kittredge Wheeler. "Divine Immanence in Recent Theology," Rev. A. H. Strong, D. D., Rochester, N. Y.; Rev. P. S. Moxom, Boston; Rev. E. H. Johnson, D. D.; Rev. Norman Fox, D. D.; Rev. P. A. Nordell, D. D.; Rev. A. C. Wheaton.

II. Seventh-Day Baptists.—The Seventh-Day Baptist General Conference met at Salem, W. Va., Aug. 20. Mr. H. D. Babcock presided. The treasurer of the Memorial fund reported that its income for the year had been \$4,828, and the expenditures on its account \$5,371, and that the total amount to its credit was \$116,919. The treasurers of different institutions had received of notes paid direct to them, also counted as part of the Memorial fund, \$14,422; and the fund was further entitled to the proceeds of certain estates, the value of which was not yet estimated. The committee in charge of that subject reported concerning correspondence with persons interested in the Sabbath, thirteen of whom were previously unknown to them. The Committee on Denominational History reported that a department of historical and biographical articles had been maintained in the denominational newspaper, and that persons in a few of the older societies were hunting up materials for descriptions of their past movements. The conference commended the course of Mr. R. M. King, of Tennessee, who having been prosecuted for violation of the Sunday laws of that State, had taken his case to the courts of the United States. Resolutions were passed denouncing the "Chinese Exclusion Act" of 1888, demanding its repeal, and advising negotiation with the Chinese Government concerning the treatment of its people in the United States; condemning the opium trade with China; and declaring it the duty of every Christian to labor by all proper means for the removal of intemperance. The desire was expressed in several resolutions for a closer unity of the various organizations of the denomination engaged in Christian work; for their recognition of a common head; and for greater system and uniformity in the courses of study of the denominational educational institutions. For these objects and for the adjustment of other questions of denomina-

tional interest which could not be adequately considered during the short time of the session of the conference, a council of delegates representing the General Conference, the churches, and the several societies was appointed to meet in Chicago in October to consider the present condition of the church, including its plans and methods of work—their efficiency and their defects—and the growing demands of the denominational work. This council at its meeting decided to recommend plans for the unification and merging of the General Conference and the Mission, Tract, and Educational societies, now independent of one another, so that the General Conference shall include delegates from the societies and shall in turn be represented on their boards. It also determined upon an elevation of the standard of scholarship in the colleges at Alfred, N. Y., Milton, Wis., Albion, Wis., and Salem, W. Va., and the appointment of a committee of the Education Society to supervise the collegiate work.

The Sabbath-School Board had reports from 79 Sabbath schools, in which were enrolled 997 teachers and officers and 5,568 pupils, and which had contributed for the purposes of the schools and for benevolent enterprises the sum of \$2,230.

The receipts of the Missionary Society for the year ending Aug. 1, 1890, were \$21,211. The amount of the Permanent fund was \$6,257; and a Ministerial Education fund was returned of \$2,207. From the mission at Shanghai, China, were reported 6 foreign workers, 3 native preachers, one church having 30 members, two additions during the year, 8 pupils in the boys' and girls' schools, and 3,137 patients treated in the dispensary. The society aids in sustaining churches or stations at Haarlem, Amsterdam, and Rotterdam, Holland; and it has assisted in supporting a missionary to the Jews in Germany and Austria. The "Mill Yard" Church, in London, with fifteen members and fourteen adherents, is partly supported from the income of an estate which was left it a long time ago. The right of this church to enjoy the proceeds of the sale of the old Mill Yard property has been contested at law on the ground that the Seventh-Day Baptist cause was dead or dying. The court has decided that a new chapel may be built with the funds, but it must be for the joint use of both Seventh-Day and Sunday keeping Baptists. There are other Seventh-Day Baptists in different parts of England. The Missionary Society also has the care of a number of efficient domestic missions in the United States.

The treasurer of the Seventh-Day Baptist Education Society reported the amount of the endowment funds under his care as \$42,313. The receipts and expenditures on account of interest were balanced at \$1,653, and \$150 had been added on account of the principal. Reports were made of the condition of the educational institutions—Salem Academy and College, West Virginia; Albion Academy, Wisconsin; Milton College, Wisconsin; and Alfred University, New York. These institutions returned altogether 730 students. Of them, Salem College was opened as Salem Academy in 1889, but it was soon found necessary to offer a full college course of study, and the name of the institution was changed to Salem College.

The receipts of the Seventh-Day Baptist Tract

Society for the year were returned at \$10,530. Its indebtedness was \$2,600, against \$1,950 in the previous year. The society has a publishing house at Alfred Center, N. Y., where were published a number of books and tracts, seven periodicals, one of which was in Danish, one in Hebrew, one was in aid of the work among the Jews, and one was suspended at the beginning of 1890; and it aids in the publication of a journal in the Dutch language in connection with the mission in Holland.

The Woman's Executive Board, which co-operates with the General Conference, the Missionary Society, and the associations in domestic and foreign missionary work, reported that it had received during the conference year \$3,216, and expended \$2,585; and had received and forwarded gifts valued at \$1,128. It had sent a missionary to Shanghai, China.

III. Free-Will Baptist Church.—The Free-Will Baptist Register and Year-Book for 1890 gives statistics of the Free-Will Baptist churches in the United States and Canada, with the mission in Orissa and Bengal, of which the following is a summary: Number of quarterly meetings, 199; of churches, 1,613; of ordained ministers, 1,386; of licensed preachers, 212; of members, 86,297. The receipts of the Education Society for the year ending Aug. 31, 1889, were 6,048. Besides the 4 colleges and 5 academical schools already established, 2 new institutions—Keuka College and a college at Winnebago City, Wis.—were reported upon as under way. The invested funds, including a permanent fund of \$1,843 and 3 special funds, amounted to \$10,189. The Home Mission Society had received \$13,662. The amount of its permanent fund was \$14,025. The receipts of the Foreign Mission Society had been \$25,496. The invested funds of this society are a permanent fund of \$15,098 and a Bible School fund of \$19,218. The mission, which is in India (Bengal and Orissa yearly meeting), returned 10 churches, with 646 communicant members, 28 additions by baptism, 3,091 pupils in Sunday schools, a native Christian community of 1,234 persons, and 3,591 pupils—Christian, Mohammedan, and Santal—in the day schools. The native churches had contributed 788 rupees. Dispensaries are opened in connection with the missions at Balasore and Jellalore. Other general societies of the Church are the Woman's Mission Society, the Temperance Union, and the Sunday-school Union. A general newspaper and 5 publications for Sunday schools are issued from the Free-Will Baptist printing establishment in Boston.

IV. Mennonites.—The statistics of the Mennonite churches are not officially collated. The following estimate of the members of the several branches in the United States is accepted by their English journal, "The Herald of Truth," as made by "a competent Mennonite."

BRANCHES.	Churches.	Ministers	Communi- cants.
Old Mennonites.....	300	850	66,000
Amish Mennonites.....	150	150	22,500
Reformed Mennonites.....	20	40	3,000
New School Mennonites.....	60	90	10,000
Mennonite Brethren in Christ....	33	35	1,171
Total.....	563	665	102,671

Mennonites, according to the "Herald of Truth," baptize penitent believers by pouring, practice close communion, observe feet washing, refuse to take judicial oaths, are non-resistants, and use the ban against unworthy members. Their bishops, elders or ministers, and deacons are chosen by lot. The number of ministers always exceeds the number of places of worship, as there are frequently two ministers to each church; but many of the churches have two and sometimes three places of worship. The literal ban is not in general use among the Old orthodox Mennonites, or among the New School. The Amish branch and the Reformed branch, however, hold strictly to the ban. This was the chief cause of separation between the Old Mennonites and the Amish, about the year 1700, A. D. The New School separated in 1848 on questions involving the doctrine of non-resistance, an educated ministry, and worldly conformity. The Reformed Mennonite Church was formed in Lancaster, Pa., in 1811, in consequence of agitations over a case of discipline.

V. Regular Baptist Convention of Ontario and Quebec.—The Baptist Convention of Ontario and Quebec met in Woodstock, Ontario, Oct. 16. Mr. D. Bentley, of Montreal, presided. The reports were presented and considered of the Boards of Church Edifices, Superannuated Ministers, Publication, Home Missions, Education, and Foreign Missions. The Board of Publication maintains a book room at Toronto, and publishes the journal "The Canadian Baptist." The Board of Home Missions had received \$17,500, and had 115 missionaries under its care. It had opened 5 chapels during the year, but still reported 80 churches without pastors. The Board of Education reported concerning the condition of Woodstock Boys' Academy, 151 pupils; Moulton Ladies' College, Toronto, 144 pupils; and Toronto Baptist College, 32 pupils. The last institution includes departments of theology and arts, of which the department of arts had just been opened. Twenty thousand dollars had been raised for Foreign Mission work, and the board had a balance of \$1,600 in the treasury. The missionary staff consisted of 9 missionaries, 8 wives of missionaries, 3 evangelists, 7 Bible women, and 34 teachers; and 3 other missionaries had been dispatched to India. These missionaries had the oversight of 18 churches, with 2,400 members, and of a seminary with 85 pupils. A proposition was favorably considered for raising, in connection with the approaching centenary of foreign missions, a Carey Memorial fund, to be applied to the furtherance of missions.

VI. Regular Baptists in Great Britain.—The number of Baptist churches in Great Britain, Ireland, and the Channel Islands is shown in the "Baptist Handbook" for 1890 to be 2,786, with 1,881 pastors or missionaries, and 329,126 members. The denominational colleges returned 232 students for the ministry.

The annual meeting of the Baptist Missionary Society was held in London, April 29. The receipts for the year had been £79,609, and the expenditures £82,081. Among the more noteworthy items in the history of the missions during the year were the dispatch of five missionaries to India, who would lead an extremely plain and simple life, in order to bring them into

easier access to the natives; the distribution of more than £40,000, most of which had come from the Mansion House fund, for the relief of sufferers from famine in China; the foundation of a station on the Congo four hundred miles beyond any station previously established; and the application to Africa of the policy of not paying a native agency, but of teaching converts that it is their duty voluntarily to spread the news of salvation—a plan which had already been successfully applied in Jamaica. The proposed amalgamation of the General Baptist and the Particular Baptist Missionary Societies was approved, on condition that satisfactory arrangements are made. A resolution was adopted condemning the traffic in intoxicating liquors and firearms with uncivilized races.

The contributions to the zenana missions amounted to £7,543. The mission staff consisted of 48 zenana missionaries, 37 assistants, 49 native Bible women, and 77 native school teachers. There were 51 girls' schools, with 1,850 pupils; more than 670 zenanas were regularly visited, and instruction was given in them to 1,400 women and children; and more than 2,000 houses were visited only for Scripture reading.

The annual meeting of the Baptist Union of Great Britain and Ireland was held in London beginning April 28. The Rev. James Owen, of Swansea, presided. The report of the council mentioned an increase of 4,628 members and 1,629 pupils in Sunday schools during the year, with the accession to the union of 2 associations, 17 churches, and 38 personal members. Of the £27,078 which had passed through the hands of the council, £4,533 had been received for the British and Irish Mission fund, £13,436 for the Annuity fund, £7,393 for the Augmentation fund, and £160 for the Education fund. Between £12,000 and £13,000 had been distributed from these various funds to pastors and widows, annuitants, and aided pastors and churches. Seventeen settlements had been effected directly, and more indirectly, through the agency of the Board of Introduction, which was formed for the purpose of bringing vacant churches and pastors without churches into communication with one another. It had been determined, for the purpose of carrying out a resolution passed by the previous autumnal session of the Union held in Birmingham in October, 1889, in favor of a union of General and Particular Baptists, to hold a meeting of the officers of the associations specially interested to consider plans for the rearrangement of associational boundaries. Resolutions were passed declaring that a public unsectarian school should be placed within the reach of every family in England and Wales; pronouncing in favor of the abolition of scholars' fees in schools under the control of the rate payers; condemning as likely to prolong the existence of weak and inefficient schools a bill before Parliament by which it was proposed to exempt elementary schools in the receipt of state aid from the payment of rates; condemning inquiry in connection with the decennial census into the religious professions of the people as unwarrantable, useless, and mischievous; and protesting against compensation out of the taxes for any liquor licenses that may be suppressed by county councils.

The autumnal session of the Union was held at Cardiff, beginning Oct. 6. The address of the chairman, Rev. James Owen, was on the "Character and the Testimony of the Churches; or, the Free Churches and the People." Papers were read respecting "The Culture of Devout Life," "The Mission and Principles of the Free Churches," "The Christian Priesthood," "The Organization of Local Preachers," "Young Men and Home Mission Work," "The Claim of the Churches on the Services of the Best Men," and "The Instruction of Young People in Non-conformist Principles." Meetings were held in the interest of the Total Abstinence Association, the missionary societies, and the working men. A report was made concerning the condition and operations of the Annuity fund. Allowances were continued of £45 to pastors, £30 to widows, and proportionally to orphans. The secretary of the Augmentation fund reported that 156 applications had been made for assistance, of which 158 had been accepted, requiring the appropriation of £1,530. A report was made concerning the pending negotiations for amalgamation of the General and Particular Baptists. The question had been discussed in a conference at Nottingham, with an almost unanimous conclusion in favor of the measure, which would probably be accomplished in due course. This would mean that the General Baptist home missions would come under the control of the Baptist Union, which, as a matter of fact, was already the council of the whole body. In anticipation of the abolition of fees in public elementary schools, the officers of the Union were instructed "to take what action might be necessary, in connection with the friends of unsectarian, popular, and free education, to secure that grants from the public funds in lieu of fees shall be made only to schools which are under the management of boards selected by the rate payers, in which neither creed nor catechism is taught." A resolution was adopted declaring—

That the Baptist Union hereby renews its earnest protest against the establishment and patronage by the civil power of any form of worship or set of articles of belief, as alike contrary to the word of God, injurious to spiritual religion, and unfair to those who dissent from the established faith and worship; and furthermore strongly urges that the constituencies of the United Kingdom at the forthcoming general election should give a mandate to their representatives to put an end to the establishment of the Church of England in Wales, and of the Kirk which is not free in Scotland, and to take prompt and effective measures for devoting tithes and similar charges to the support of public elementary schools or other good works in which all members of the community are equally interested.

VII. General Baptists (New Connection).—The annual meetings of the General Baptist Association (New Connection) were held in Nottingham in June. The Rev. William Hill presided, and in his address advocated the union of Baptists as one comprehensive denomination. The statistical returns showed that the number of members was 26,782. The principal business transacted was with reference to the proposed union with the larger section of the Baptist denomination. The result of a conference of secretaries, held to consider in what practical way the county associations of the Particular Baptists and the

General Baptist Association could be combined, resulted in recommendations that the General and Particular Baptists in the counties of Notts, Derby, Leister, and Lincolnshire should unite and form a new association; that in the other districts the General Baptist churches should unite with the existing local associations; and that when local circumstances make it desirable, each church should be free to take its own course as to the association it should join. A plan for the union of the Foreign Missionary Society with that of the Particular Baptists, to be subject to the regulations of the latter, was agreed upon by the society and adopted by the association; and the desire was expressed that the proposed union be completed by June, 1891.

The General Baptist churches are situated principally in the midland counties of England, and were reorganized to form the present "New Connection" in the year 1770. The association has a closer connectional cohesiveness than the Particular Baptists possess. The several institutions, missionary, and benevolent societies are so many departments of the general body; while with the Particular Baptists, the Foreign Missionary Society, the ministerial colleges, the building fund, and other similar societies are independent and self-managing.

VIII. General Baptist Assembly.—The two hundred and thirty-seventh General Baptist Assembly, which includes both orthodox and Unitarian churches, was held in London in October. A paragraph was inserted in the constitution declaring that the churches "believe that the gates of any sectional part of Christ's Church should be as wide open as the gate of his universal Church, and, therefore, that all his churches may gladly receive into membership any persons who shall confess their personal faith in Christ and avow their determination to obey him according to their light." It also adopted resolutions condemning the policy of the Government in Ireland, favoring free education, and expressing sympathy with the labor movement.

BELGIUM, a constitutional monarchy in western Europe, declared neutral and inviolable in the treaty of London in 1839. Leopold II, son of the first King, Leopold I, and of the Princess Louise, daughter of Louis Philippe, King of the French, was born on April 9, 1835, and ascended the throne on Dec. 10, 1865. Members of the House of Representatives are elected by the direct suffrage of all citizens paying 40 francs in direct taxes, in the proportion of one deputy to every 40,000 of population. Members of the Senate are elected under the same conditions for eight years, or double the term of service in the lower house. The executive authority is exercised through a Council of Ministers consisting of the following members, as constituted after the general election in 1884: President of the Council and Minister of Finance, A. Beernaert; Minister of Justice, J. Lejeune; Minister of the Interior and of Instruction, J. Devolder; Minister of War, Gen. C. Pontus; Minister of Agriculture, Industry, and Public Works, L. Debruyne; Minister of Railroads, Posts, and Telegraphs, J. H. P. Vandepereboom; Minister of Foreign Affairs, Prince de Chimay.

Area and Population.—The area of the kingdom is 29,457 square kilometres, or 11,373

square miles. The population, as estimated at the beginning of 1889, is 6,030,043, comprising 3,008,444 males and 3,021,599 females, showing an annual increase of 1·15 per cent. since 1880. The number of marriages in 1888 was 42,427; of births, 175,493; of deaths, 121,097; the surplus of births over deaths, 54,396. The number of emigrants in 1888 was 21,213; of immigrants, 23,041; the excess of immigration, 1,828. The most populous cities are Brussels, with 469,317 inhabitants on Jan. 1, 1889, including its suburbs; Antwerp, with 215,778; Ghent, with 150,656; and Liège, with 142,657.

Education.—At the end of 1888 there were 5,491 primary schools, with 604,068 pupils; 1,644 elementary schools for adults, with 65,300; 947 infant schools, with 99,296; 49 primary normal schools, with 3,783; 7 superior normal schools, with 487; 89 intermediate schools for boys with 14,385; 40 for girls, with 7,079; and 35 royal colleges and atheneums, with 7,361. The universities in 1889 had the following numbers of students:

UNIVERSITIES.	Theology.	Law.	Philosophy.	Medicine.	Sciences.	Total.
Brussels.....	428	158	568	526		1,670
Ghent.....	189	62	198	172		616
Liège.....	856	299	215	887		1,297
Louvain.....	68	424	188	465		1,454
Total.....	68	1,392	697	1,444	1,361	4,947

There are besides 913 students in the schools of engineering, art, mining, and manufactures connected with the universities. The Royal Academy of Fine Arts at Antwerp had 1,346 students in 1888; the various schools of design, 13,014; schools of music, 12,220. In the budget for 1890 the sum of 1,644,900 francs is appropriated for superior education, 3,784,048 francs for intermediate schools, and 10,725,288 francs for elementary education. Out of 55,585 recruits called into the military service in 1889 there were 18,678 who had a good education, 27,566 who could merely read and write, 1,575 who could only read, and 7,329 without the rudiments of education.

Commerce.—The total value of the general commerce in 1888 was 3,087,246,500 francs of imports and 2,800,025,000 francs of exports. The imports by sea amounted to 1,302,495,900 francs and the exports to 1,220,919,000 francs. The imports for home consumption were of the total value of 1,534,300,000 francs; the exports of domestic products, 1,243,700,000; the transit trade, 1,556,300,000 francs. The values, in francs, of the imports for home consumption of the principal articles are as follow: Cereals, 263,315,000; textile materials, 186,782,000; vegetable substances, 84,210,000; timber, 69,688,000; chemicals, 68,579,000; live animals, 67,240,000; minerals, 66,680,000; resinous substances, 65,373,000; hides and skins, 61,410,000; textile manufactures, 52,663,000; coffee, 44,449,000; butter and eggs, 32,961,000; metals, 32,439,000; animal products, 30,378,000; yarns, 27,321,000; wine, 22,710,000; rice, 19,885,000; meat, 19,072,000; manure, 18,293,000; oils, 17,753,000; fish, 11,260,000.

The values, in francs, of the largest exports of domestic products are as follow: Yarns, 135,368,000; textile materials, 79,485,000; coal, 78,-

474,000; cereals, 68,995,000; textile manufactures, 65,821,000; stone, 63,119,000; hides and skins, 59,832,000; iron and iron manufactures, 58,088,000; machinery, etc., 52,361,000; vegetable substances, 46,782,000; glass, 45,638,000; sugar, 35,531,000; animal products, 31,682,000; chemicals, 23,912,000; zinc, 28,019,000; paper, 26,902,000; live animals, 22,217,000; mineral substances, 20,251,000; resinous substances, 18,177,000; steel, 16,453,000; meat, 16,181,000; arms, 12,257,000.

The participation of the principal trading countries in the foreign commerce of Belgium in 1888 is shown in the following table, which gives the values of the commerce with each, in francs:

COUNTRIES.	Imports.	Exports.
France	280,010,189	842,680,888
Great Britain	182,557,256	256,101,568
Netherlands	216,415,708	172,020,189
Germany	168,944,482	200,127,708
United States	119,816,792	52,508,494
Russia	149,781,457	5,904,538
Eoumania	90,567,109	8,627,860
Argentine Republic	54,798,639	21,718,999
Sweden and Norway	48,194,626	9,298,011
India	55,915,890	4,667,116
Italy	18,829,185	24,296,197
Brazil	24,588,511	18,795,940
Spain	10,976,588	19,831,688
Peru	82,204,977	
Switzerland		22,656,482

Navigation.—During 1888 there were 6,930 vessels, of 4,912,601 tons, entered and 6,915, of 4,907,498 tons, cleared at Belgian ports. Of the vessels entered 1,496, of 944,140 tons, came from England, and 268, of 478,322 tons, from the United States; of those cleared 3,542, of 1,791,432 tons, were bound for English and 235, of 473,667 tons, for American ports. The merchant fleet on Jan. 1, 1889, consisted of 9 sailing vessels, of 4,271, and 50 steamers, of 73,384 tons.

Railroads, Posts, and Telegraphs.—The railroads open to traffic on Jan. 1, 1889, had a total length of 4,647 kilometres, or 2,904 miles, 3,201 kilometres being under state management and 1,446 kilometres operated by companies. The receipts on the state lines in 1888 were 131,612,594 francs and the expenses 69,922,322 francs; on the companies' lines the receipts were 38,057,337 francs and the expenses 18,545,659 francs. The total cost of the state railroads was 1,284,122,184 francs.

The Post-Office during 1888 carried 90,940,333 letters, not counting 15,977,216 official letters, 27,484,548 postal-cards, 59,960,862 circulars, etc., and 95,837,755 newspapers. The receipts for the year were 15,476,335 francs and the expenses 8,796,704 francs.

The length of telegraph lines in the beginning of 1889 was 4,013 miles and the length of wires 19,030 miles. The number of messages in 1888 was 7,266,694; receipts, 3,278,815 francs; expenses, 3,860,544 francs.

Finances.—The revenue is estimated in the budget for 1890 at 332,596,411 francs from ordinary sources, 24,172,000 francs being derived from property taxes, 19,739,000 francs from personal taxes, 6,580,000 francs from trade licenses, 852,000 francs from mines, 27,253,331 francs from customs, 40,934,504 francs from internal revenue duties, 19,710,000 francs from succession duties, 24,170,000 francs from registration, 5,800,000

francs from stamps, 1,458,000 francs from various indirect taxes, 127,500,000 francs from railroads, 3,713,000 francs from telegraphs, 9,855,800 francs from postal receipts, 2,375,000 francs from navigation dues, 1,300,000 francs from forests and domains, 14,428,500 francs from funds and securities, and 3,245,376 francs from repayments. The total ordinary expenditure is placed at 321,092,479 francs, of which 99,165,209 francs are allotted to interest on the public debt and the sinking fund, 4,570,465 francs to the civil list and dotations, 15,672,075 francs to the Ministry of Justice, 2,414,720 francs to the Ministry of Foreign Affairs, 22,747,906 francs to the Ministry of the Interior and Public Instruction, 16,799,032 francs to the Ministry of Public Works, 91,903,897 francs to the Ministry of Railroads and Telegraphs, 46,367,790 francs to the Ministry of War, 15,586,585 francs to the Ministry of Finance, and 1,686,500 francs to repayments.

The general budget for 1891 makes the ordinary receipts 337,957,202 francs and the ordinary expenditures 327,936,352 francs. The extraordinary budget, which, according to a custom that has become established, contains expenditures properly belonging to the ordinary budget, amounts to 61,500,000 francs, converting the so-called surplus into a considerable deficit. The principal extraordinary expenditures are for fortifying the Meuse and building harbors for Bruges and Brussels. The entire expenditures may be covered without borrowing, as the estimates of income are usually surpassed by the actual receipts.

The debt of the kingdom was incurred almost entirely for the construction of railroads and other useful works. The capital amount in 1890 was 1,923,118,174 francs, consisting of 219,959,632 francs paying 2½, 511,344,735 francs paying 3, and 1,191,813,807 paying 3½ per cent. interest.

The Army.—About 13,300 recruits are enrolled in the army every year. They serve nominally eight years, but actually the term of service is shortened by furloughs to not more than a third of the full period. The strength of the army on the peace footing, officers and men, as sanctioned in the budget for 1889, is as follows: infantry, 30,778; cavalry, 6,048; artillery, 8,371; engineers, 1,479; administration, 894; total, 47,570.

Politics and Legislation.—The Moderate Liberals by introducing a system of state schools in 1879 alarmed the clergy, whose influence over the peasantry is supreme, although the law gave every facility for religious instruction by placing all schools at the disposal of the clergy at the hours which suited them and within those hours allowed them complete freedom of action. The Church, which possesses enormous wealth in Belgium, established rival schools. The contest against secular education was waged with all the energy possible because in Belgium the Ultramontanes had better chances of success than elsewhere. In offering to relieve the tax payers of the cost of public instruction they bribed the self-interest of the electors, who as the result of the agitation were inspired with vague fears of the democratic tendencies of Liberalism. In 1884 enough voters swerved to the Conservative side to place the Clericals in power. Frère-Orban, far from evincing any radical tendencies,

shaped his policy to conform to the opinions of the same narrow class who now consider the Clericals safer guides. The bulk of the Liberals fell away from the party because the leaders would not accept a programme embracing reforms that have long since been carried out in other Continental countries, such as compulsory education, personal liability to military service, universal suffrage or a franchise based on intelligence and social reform. There is no lack of progressive ideas in Belgium. The Constitution, save in its electoral provisions, is one of the most liberal, and public opinion is as active as in any other country. The support of the intelligent democracy is nevertheless of no value to the Government, which depends for its existence on a peculiarly constituted electorate. The parliamentary franchise is the narrowest in the world. In a population of over 6,000,000 there are only 120,000 voters, and of these a large proportion are entirely uneducated farmers, for the right of suffrage is restricted to the adult males who pay 42 francs 32 centimes a year in direct taxes. Those who compose this oligarchy are naturally opposed to state schools that would increase their taxes, to a military reorganization that would compel their sons to serve, to social reforms that would cost sacrifices on their part, and most of all to a revision of the Constitution that would extend to other classes the absolute political power that they exercise through a free Parliament, even though by denying the enlargement of the franchise they keep the country on the verge of revolution. The Conservatives are less unwilling to lower the cense, or even to grant universal suffrage, than the Liberals showed themselves to be, because they could control the votes of the small proprietors and the land proletariat and pauper class, whereas an extension of the franchise would throw the control of the Liberal party into the hands of the Radicals, whose views are antagonistic to those of the present leaders. The Clericals when they attained the control in Parliament strengthened their electoral position by widening the boundaries of the city districts, and thus adding enough agricultural voters to counterbalance the Liberal majorities among the townspeople. Although these compound districts, in which the rural population outnumbered the urban, now elect Conservative deputies as well as the country districts, the Liberals still retained a majority in many of the communal and some of the provincial councils. This was owing to a franchise based on capacity, which the Liberals introduced when they were in office, giving votes in local elections to members of the liberal professions, public officials, superintendents of industrial establishments, and all who could pass an examination in the ordinary branches of knowledge. An electoral bill passed in the session of 1890 is designed to wipe out the Liberal majorities in the local bodies. It abolishes the franchise based on education and social position, thus disqualifying a large class of intelligent voters, and gives the right of voting to a larger class preponderantly ignorant by lowering the tax-paying qualification from 20 to 12 francs for the provincial, and from 12 to 8 francs for the communal electors. It further creates another and more questionable class of voters by conferring the franchise on

every man who owns a piece of ground with a dwelling upon it. Owing to the excessive subdivision of the soil, properties fulfilling these conditions are very common among the most degraded classes.

Finding their last foothold of power and influence slipping away, the Liberals, who have vainly hoped to see a popular reaction against the Clerical *régime*, and have found instead that the exposure of gross scandals, abuses, and follies does not shake them in their position, determined to heal the schism in the party, and to make a strong effort in the elections of 1890 to win at least a dozen seats from the Conservatives in the hope of regaining by means of the Brussels election in 1892 their parliamentary majority. Otherwise there was little hope of recovering their ascendancy before the end of the century. The elections of June 10 were for the renewal of one half of each Chamber. The fusion with the part of the Radicals who are content with demanding an educational qualification for suffrage was of no avail. Moderate opinions have lost ground, while the advocates of universal suffrage have grown in numbers, and the Social Democrats, who in the late election for the Trades Council in Brussels cast 3,500 votes to 500 given by their opponents. The result of the parliamentary election was disappointing to the Liberals. They struggled to regain the seven seats in Ghent that were lost by a small majority in 1886. This majority the Clericals increased fivefold, and the only seat that the Liberals still held was won by a Conservative. Gains in Charleroi and Verviers compensated for this loss. The Liberals, instead of forty-three, now number forty-four in the Chamber of Deputies, while the Clericals have an overwhelming majority of ninety-four. The growing strength and confidence of the Socialists were made evident in this election by their placing candidates in the field for the first time.

The session of the Chambers that ended with the prorogation of the Senate on May 21, 1890, was singularly unproductive. The Government failed to advance the scheme of labor legislation it had promised, and consequently Janson offered a bill to compel employers to insure workmen against accidents, either by mutual association or in insurance companies that furnish the necessary security. This bill, which secures the widow 35 per cent. of the man's wages and 10 per cent. for each child up to the age of fourteen, will be discussed in the next session. The ministry carried a bill altering the sugar duties to conform more nearly to the not yet perfected international agreement. The principal changes are a reduction of three francs on the drawback and the taxing of the saccharine yield at 1,700 instead of 1,650 grammes per hectolitre. One of the most important legislative acts recently proposed to the Parliament is the acceptance of the Congo State as a Belgian dependency.

The Partition of Moresnet.—The Vienna treaty of May 31, 1815, formed out of Holland and Belgium the kingdom of the Netherlands and fixed the boundaries between it and Prussia. The boundary commissioners were not able to agree as to where the line should run through a part of the Commune of Moresnet, between the Diocese of Liège and the Duchy of Limburg. In the boundary treaty of June 26, 1816, the terri-

tory in dispute was left to be divided when the two governments could reach an agreement, and in the mean time to be administered in common. From that time the district has been treated as neutral. It was supposed that its perpetual neutrality was guaranteed, till in 1890 the Prussian Government and the Belgian Government, which succeeded to the rights of the Netherlands, agreed on a line dividing the commune.

International Miners' Congress.—Thomas Burt and Thomas Fenwick, two of the working-men members of the British Parliament, while attending the Labor Congress at Paris in 1889, suggested to the miners that they met there the advisability of holding an international congress of miners to discuss their special interests. The wealthy miners' trade unions of Great Britain, containing 395,000 members, undertook to convvoke the Congress in England, but the correspondence convinced them that a place on the Continent would suit the miners of different countries much better, and at the suggestion of the Belgian Labor party Jolimont, in the mining district of Belgium, was fixed upon.

The Congress met on May 20, 1890, in the hall built with the profits of the co-operative bakery established by the Labor party in 1886. The English delegation was thirty-six strong, five of the delegates being members of Parliament. The Belgian miners were represented by fifty delegates. There were seven delegates from France, one of whom, representing the Decazeville miners, was ex-Deputy Basly. From Germany five delegates were sent, notwithstanding the heavy penalties against participation in international meetings of workmen. They were not chosen by trade unions, because that would entail the suppression of the unions, but by public meetings, and more would have come except for the doubts regarding this mode of appointment. Austrian miners were represented by a delegate from Prague.

Mr. Burt was chosen president for the English and M. Cavrot for the French speaking section. The appearance of gendarmes and the inquiries instituted by the Minister of the Interior concerning the foreign delegates gave the impression that the foreign members of the Congress were to be expelled. A resolution that miners should work only eight hours a day was adopted unanimously. The proposition contained in a further resolution that the limitation should be enforced by legal enactment was opposed by several English trade-unionists. Still, the majority voted with the Belgian, French, and German delegates, all of whom were Socialists, in favor of an eight-hour law. An instruction, originally proceeding from the Marxist party, announcing a general international strike of miners for eight hours on May 1, 1891, was strongly reprobated by most of the British members, who said that they did not rule the unions and had no authority to order a strike or to pledge assistance. The others were therefore compelled to accept a resolution in favor of a new Congress in April, 1891, to deal with the question after consultation with their constituents. The Congress voted approval of national trades unions to be formed for national purposes and of an international miners' federation for international purposes, and it appointed a com-

mittee of two delegates from each nation to act as the organizers and serve as the nucleus of the International Federation.

Customs Conference.—The international conference for the publication of customs tariffs assembled at Brussels on July 1, 1890. To the countries that took part in the conference of 1888 were added Austria-Hungary, France, Japan, the Netherlands, and several of the South American republics. One of the questions considered was the establishment of an international office at Brussels to publish in the principal languages the customs laws and tariffs of all nations, the costs of which are apportioned among the countries entering into the arrangement in proportion to the volume of their foreign trade. The convention for the establishment of the bureau was signed on July 5, with separate acts relating to the method of carrying out its provisions and the payment of expenses.

BOLIVIA, a republic in South America. The executive power is vested in a President, who is elected for four years. Don Aniceto Arce entered on his presidential term on Aug. 1, 1888. The members of both the Senate and the Chamber of Deputies are elected by universal suffrage. The Cabinet in the beginning of 1890 was composed of the following ministers: Foreign Affairs, Juan C. Carrillo; Finance, Pedro Garcia; Interior, J. M. del Carpio; Justice, J. Pol; War, Col. A. Rojas.

Area and Population.—The area of Bolivia is estimated at 772,548 square miles, and the population at 1,192,162 persons, exclusive of the aborigines, who are not admitted to citizenship. La Paz, the capital, has 56,849 inhabitants. There were 28,558 pupils attending the 443 primary schools in 1888, 2,347 in the 19 secondary schools, and 743 students of law, medicine, and theology in the 4 universities.

Commerce and Production.—The average annual value of imports is \$6,000,000 and of exports \$10,000,000. Two thirds of the exports consist of silver. Other articles of export are gold, copper, tin, cinchona bark, coca leaves, India-rubber, gum, coffee, and nitre. There were exported in 1888 by way of Buenos Ayres silver of the value of 5,487,835 dollars in Argentine currency and gold of the value of 1,201,226 Argentine dollars. The imports of textiles and other commodities through Buenos Ayres amounted to 518,588 dollars. A large proportion of the imports, consisting of iron manufactures, machinery, cotton goods, carriages, coal, etc., come from Great Britain, mainly through the Peruvian port of Arica. There is also a large and increasing trade with Germany and France. The railroad connecting the Chilean port of Antofagasta with Ascotan on the Bolivian frontier is being continued to Oruro. There is a telegraph from Lake Titicaca to Sucre, and one extending from the Pacific coast through the capital and Potosi to the Argentine frontier. The number of messages in 1886 was 16,127; the number of letters carried by the post-office, 1,525,606.

Finances.—In the budget for 1887-'88 the revenue was estimated at 3,665,790 bolivianos or dollars, and the expenditure at 4,599,225 bolivianos. The amount of the foreign debt was officially stated in December, 1888, at 6,027,292

bolivianos, and the internal debt at 8,736,075 bolivianos. Floating liabilities are said to swell the total to more than double these sums. Over two thirds of the public revenue is devoted to maintaining the standing army of 2,000 men and 1,020 officers and the National Guard, in which all citizens are obliged to serve.

Revolutionary Manifestations.—In the summer of 1890 various violent attempts to overthrow the Government were made. In different parts of the country risings took place. The most serious one was led by Camacho, whose force was defeated and dispersed in the middle of July. The Government declared over the whole republic a state of siege, and several political leaders were arrested and escorted to the frontier.

BOUCICAULT, DION, a British dramatist and actor, born in Dublin, Ireland, Dec. 26, 1822; died in New York city, Sept. 18, 1890. He was the son of a French merchant in Dublin, and his education was conducted by his guard-

eighteen he had written "Napoleon's Old Guard" and "A Lover by Proxy," a farce, from the preparation of which sprang his next play, "London Assurance," which was at once successful, and has held the stage ever since. His account of the way it came to be written is as follows: "Mathews was then in power, and to him I submitted the farce, which he promised to read. I called on him several times, but of course did not succeed in getting an audience. Finally I caught him dining and was admitted to his presence. 'Ah, young man,' he said, 'you wish to know my verdict on your farce? It is promising, in fact, clever; but I can not produce it at present, for my time is filled up. However, if you care to leave it, I'll see what can be done hereafter. There are good points in Harry Lawless. If I had a part like that in a five-act play, I'd jump at it.' Well, I knew that Mathews had not the remotest idea of bringing out my farce, but I saw light in his remark regarding a five-act play. I went home and began 'London Assurance,' and in six weeks completed it. This was in March, 1841, at the age of eighteen. Again I went to Mathews and showed him the comedy. 'But I ordered no comedy,' he exclaimed. 'I am aware of that,' I replied. 'You did say, however, that if you had a part like Harry Lawless in a five-act comedy you'd jump at it. I've written such a character for you.' 'What!' he cried, 'do you mean to say you've written a five-act comedy in six weeks, on my suggestion?' 'Yes.' My perseverance so astounded Mathews that his indifference turned to interest. He read 'London Assurance,' accepted it, and, when I read it to the actors of Covent Garden, Madame Vestris was so pleased that she came to me, saying: 'Whatever may be the public verdict, we feel sure that you have written a great comedy.'

His next success was "Old Heads and Young Hearts," 1843. He continued to write or adapt plays until 1853, when he also went upon the stage as an actor. In the same year he married Agnes Robertson, an actress, and came to the United States, where he delivered lectures and he and his wife acted. In 1858 he established a theatre in Washington, and in the following year he remodeled the Metropolitan Theatre in New York, naming it "Winter Garden." In 1860 he returned to London, and there brought out, at the Adelphi, his famous Irish play of "Colleen Bawn," founded on Gerald Griffin's novel of "The Collegians." The next year, at the same place, he produced his successful play, "The Octoroon," which was intended to set forth the evils of American slavery. Drama followed drama in rapid succession, some being original and some adaptations from the French. Of his three hundred plays, some of the best known of this period are: "Dot," and "The Relief of Lucknow," 1862; "The Trial of Effie Deans," 1863; "The Streets of London," 1864; "Arrah-na-Pogue," 1865; "The Flying Scud," "Hunted Down," "The Long Strike," 1866; "How she loves him," and, in connection with Charles Reade, a dramatization of the latter's novel of "Foul Play," 1867; "After Dark," 1868; "Lost at Sea" and "Fornosa," 1869; "The Rapparee" and "Jezebel," 1870; "Babil and Bijou," 1872.

The dramatization of Washington Irving's story of "Rip van Winkle," made world-famous



BOUCICAULT AS CONN, IN "THE SHAUGHRAUN."

ian, Dr. Dionysius Lardner, of the University of London, who designed to make him an architect and civil engineer; but unusual ability for dramatic composition developed so early that the studies were abandoned. Before the age of

through the acting of Joseph Jefferson, is usually attributed to Boucicault's pen. Jefferson, in his autobiography, says of the play: "'Rip van Winkle' was not a sudden success. It did not burst upon the public like a torrent. Its flow was gradual, and its source sprang from the Hartz mountains, an old German legend, called 'Carl, the Shepherd,' being the name of the original story. The genius of Washington Irving transplanted the tale to our own Catskills. The grace with which he paints the scene, and, still more, the quaintness of the story, placed it far above the original. Yates, Hackett, and Burke had separate dramas written upon this scene, and acted the hero, leaving their traditions one to the other. I now came forth, and, saying 'Give me leave,' set to work, using some of the before-mentioned tradition, mark you. Added to this, Dion Boucicault brought his dramatic skill to bear, and, by important additions, made a better play and a more interesting character of the hero than had as yet been reached. This adaptation, in my turn, I interpreted and enlarged upon. It is thus evident that, while I may have done much to render the character and the play popular, it has not been the work of one mind, but, both as to its narrative and its dramatic form, has been often molded, and by many skillful hands."

In 1873 Boucicault brought out, at Booth's Theatre, in New York, his Irish play "Daddy O'Dowd"; at Wallack's, "Mora" and "Mimi"; and at the Union Square, "Led Astray." He returned to the United States to remain, and, in connection with William Stuart, opened the New Park Theatre. Among his other plays are "Janet's Pride," "Louis XI," "Faust and Marguerite," "Paul Lefarge," "A Dark Night's Work," "The Dead Secret," "Andy Blake," and "The Shaughraun," which was produced at Wallack's Theatre (now the Star), ran for a whole season, and has been often revived with success. Mr. Boucicault established a school for acting, and devoted much of his time to it. He insisted upon higher rates of compensation for the dramatic author, made the play the leading attraction, and so endeavored to elevate his profession. Unfortunately for his personal fame, after many years, and when their children were already upon the stage as actors, he separated from Agnes Robertson, with the declaration that he had never been legally married. Several years later he married, in Australia, Miss Louise Thorndyke, an actress. At the time of his death he was at work upon a dramatization of Bret Harte's story "The Luck of Roaring Camp."

BOYCOTT. The boycott is an ancient custom under a new name. It may be defined as a policy of social excommunication. Although the policy is thoroughly American, the name "boycott" was given it in Ireland. The policy was first recommended to the Irish people by James Redpath, who, during the land agitation in Ireland in 1880 advised it, in the following words: "Call up the terrible power of social excommunication. If any man is evicted from his holding, let no man take it. If any man is mean enough to take it, don't shoot him, but treat him as a leper. Encircle him with silence. Let no man nor woman talk to him nor to his wife nor children. If his children appear in the streets, don't let your children speak to them. If

they go to school, take your children away. If the man goes to buy goods in a shop, tell the shopkeeper that if he deals with him you will never trade with him again. If the man or his folk go to church, leave it as they enter. If ever death comes, let the man die unattended save by the priest, and let him be buried unpitied. The sooner such men die, the better for Ireland. If the landlord takes the ground, let no man work for him. Let his potatoes remain undug, his grass uncut, his crop wither in the field. . . . When an honest tenant, unable to pay his rent on account of bad crops, is evicted from his farm, let no man take it; but if any man does take it, do not speak to him nor sell to him nor work for him nor stand at the same altar with him; let him feel that he is accursed and cast out from all your sympathies, he and every member of his family. . . . Act toward him as the Queen of England would act toward your good wife, if she lived in Clonbur. Act toward his children as the Queen of England would act toward your children. The Queen of England would not speak to you, she would not speak to your wife, she would not speak to your children. She would not regard you, nor your wife, nor your children as her equals. Now imitate the Queen of England, and don't speak to a land-grabber, nor a land-grabber's wife, nor to a land-grabber's children. They are not your equals. Do as the Queen of England does, and you will violate no law of England. . . . This is no new policy I am advocating, only a new application of an ancient policy. Once Europe was a vast camp of armed men. And yet we read that the haughtiest Emperor of Europe was once forced to kneel in the snow, a suppliant, for three days and nights at the door of a priest who had not an armed soldier to obey his orders. What power brought the armored prince to the feet of the unarmed pope? It was the terrible weapon of religious excommunication. That weapon you can not wield in defense of your rights; but the next keenest weapon—the power of social excommunication—is yours, and no law of the state or the Church forbids you to draw it."

Mr. Redpath gives the following account of the naming of this policy: "Capt. Boycott came into that country seventeen years ago [1883], but had not lived there five years before he won the reputation of being the worst land-agent in the County Mayo. . . . The land agitation suddenly aroused the tenantry to a sense of their power, which they could wield without violating any law, if they would combine and act as one man. The first use of this power against Boycott was made when he sent last summer for the tenantry of the estates for which he was agent, to cut the oats on his farm. . . . The whole neighborhood declined to work for him. . . . The people assembled, and I was told by — (it would ruin him if I were to give his name) that . . . he told the people about my prediction of the effects of a strike against the landlords, in my Clare Morris speech, and advised them to try it on Boycott at once. The men advised Boycott's herdsman and drivers to strike, and the women advised Boycott's servant girls to strike, and that evening every one of them left his house. Next morning when Mrs. Boycott went to buy bread, the shopkeeper told her that,

although she was a decent woman and they all liked her, they couldn't stand that 'baste of a husband of hers any longer,' and they really couldn't sell her any more bread. Boycott was isolated. . . . Three days after the decree of social excommunication was issued against Boycott I was dining with Rev. John O'Malley, and he asked me why I was not eating. I said 'I am bothered about a word.' 'What is it?' asked Father John. 'Well,' said I, 'when the people ostracize a land-grabber we call it social excommunication, but we ought to have an entirely different word to signify ostracism applied to a landlord or land-agent like Boycott. Ostracism won't do, the peasantry would not know the meaning of the word, and I can't think of anything.' 'No?' said Father John; 'how would it do to call it "to boycott him."?' Then I was delighted, and I said: 'Tell your people to call it boycotting, so that when the reporters come down from London and Dublin they will hear the word; use it yourself . . . and I will ask the young orators of the Land League to give it that name; and I will use it myself in my correspondence.'

The boycott was one of the methods adopted by the patriots of the American Revolution as a defense against the tyranny of Great Britain. When King George and his ministers attempted to tax the colonies unjustly, agreements were drawn up by the Sons of Liberty and presented for signature to all the principal citizens of the colonies. By these agreements the signers bound themselves not to "import, purchase, nor make use of certain articles produced or manufactured out of North America, such as teas, wines, and liquors." "Homespun parties" were given where nothing of foreign importation appeared in the dresses or on the table. Even wedding festivities were conducted upon patriotic principles. It is related that at the marriage of Miss Dora Flint, at Windham, Conn., in December, 1767, the ladies were all arrayed in garments of domestic manufacture. The refreshments were all of domestic produce. In many of the principal towns of the colonies "committees of correspondence" were appointed who were to write to other towns and impress upon the people there the importance of this boycott, or, as it was then called, this "non-importation agreement." The Boston committee was most active. It was composed of Samuel Adams, John Hancock, James Bowdoin, John Adams, William Phillips, Joseph Warren, and Josiah Quincy. The circular which they sent out, known as the Boston circular, was sent throughout all the colonies. On Jan. 29, 1770, the inhabitants of Norwich, Conn., met in public mass meeting and resolved: "We give our hearty and unanimous approbation to the agreement the merchants have entered into to stop the importation of British goods; we will frown upon all who endeavor to frustrate these good designs, and avoid all correspondence and dealings with those merchants who shall dare to violate these obligations." By May, 1770, three hundred and sixty individuals, mostly heads of families had put their names to the non-importation agreements. All over the country committees, variously called "committees of inspection" or "committees of observation," were

appointed to make critical examination into the conduct of all buyers and sellers of goods, and to publish the names of those who failed to respect the boycott, "to the intent that such persons might be exposed to the odium and resentment of the people." Any person found to have violated the boycott had his name posted in handbills and in the newspapers, "a proceeding," says a writer of that day, "which was usually followed by insults at least from the boys and populace." Ebenezer Punderson, the schoolmaster at Norwich, drank tea in spite of the boycott until the committee of inspection posted him and ordered "that no trade, commerce, dealings, or intercourse whatever be carried on with him," when he found it advisable to refrain from tea-drinking. The committee of observation of Cumberland County, N. J., reported that Silas Newcomb drank tea "and was determined to persist in that practice," and recommended that the people "break off all dealings with him, and in this manner publish the truth of the case, that he might be distinguished from the friends of American liberty." This was so effective that on May 11, 1775, Silas Newcomb formally, publicly, and in writing, recanted. In Boston, two or three brothers named McMasters sold the boycotted goods. On June 19, 1770, one of them was taken and carted in the heat of the day, with a bag of feathers and some tar in a barrel by his side, to King Street, where it was intended to expose him to public view besmeared with the one and coated with the other. But as he drew near the spot, his color forsook his lips, his eyes sank, and he was about to fall lifeless in the cart, when some gentlemen begged permission to take him into a house. Cordials were administered and McMasters was revived, and upon his solemn promise to go away and never return he was excused from this newly invented punishment, and carted, sitting in his chair, to the Roxbury line, where he was dismissed.

A printer in New York city published a Tory newspaper, and was boycotted very generally by the people of New Jersey. One of these boycotts reads as follows: "We esteem him as an incendiary employed by a wicked ministry to disunite and divide us; and, therefore, we will not for ourselves have any connection or dealing with him, and do recommend the same conduct toward him to every person in this township; and we will discountenance any post-rider, stage driver, or carrier who shall bring his pamphlets or papers into this country." The inhabitants of Staten Island found it hard to relinquish their tea or their newspaper; and the committees of observation of the adjoining counties reported that the people of New Jersey "are bound to break off all trade, commerce, dealings, and intercourse whatever with the inhabitants of said island; and do resolve that all trade, commerce dealings, and intercourse whatever be suspended accordingly, which suspension is hereby notified and recommended to the inhabitants of their district, to be by them universally observed and adopted."

The attempt of the British to break the boycott by sending to America ships freighted with tea which was to be sold by specially appointed agents and at a reduced price was well known.

The inhabitants of New York and Philadelphia sent the ships back to London. The tea at Charleston, S. C., was stored in cellars, where it could not be used and where it finally spoiled. In Boston men disguised as Indians boarded the ships and threw their cargoes into the sea. On Nov. 22, 1774, a brig loaded a cargo of tea at Greenwich, N. J., but a party of the Sons of Liberty, headed by Ebenezer Elmer, afterward a member of Congress, destroyed it by fire. The attempt to break down the boycott on tea was everywhere unsuccessful.

These boycotts of revolutionary times were remarkable because of their extension over so large a territory, the unanimity with which they were enforced by the people of the colonies, and the number of years which they lasted; nor, in estimating their importance, should the result which they were largely instrumental in accomplishing be forgotten.

McMaster, in his "History of the People of the United States" (Vol. I, p. 404), gives an amusing and instructive account of a boycott declared by New Jersey and the people of Connecticut against New York in 1787. The embargoes laid by Congress upon shipping in ports of the United States in 1794 and 1806 were little less than boycotts as now understood. They were declared by one nation against another, yet they were enforced by the approbation of the people; and when declared by the national authorities to be at an end were still continued by private action in some parts of the country. There is still another American boycott, whose full history has never been completely written. Albion W. Tourgee, in his novels, has shown part of its operation; much concerning it is no doubt contained in diaries, in private correspondence, and in newspapers. This is the policy of social excommunication with which the South met the Northern emigrants or "carpet-baggers" after the civil war. This procedure is of peculiar value in tracing the history of the boycott, for James Redpath lived in the South in those days, saw the policy of social ostracism put into force, watched its operations, and noticed its failures—which were few—and its successes—which were many. From his experiences of that time were derived his suggestions and recommendations of this policy to the Irish, which have been already mentioned. The boycott is, therefore, an American custom with an Irish name. The most remarkable instance in the recent history of the boycott was the suggestion put forth by several newspapers in the Southern States in July, 1890, to boycott all Northern men and manufacturers if a certain bill giving control over elections of Federal officers to United States officials was passed by Congress.

BRAZIL, a republic in South America, constituted under the name of the United States of Brazil on the overthrow of the Imperial Government and dethronement of Dom Pedro II, Nov. 15, 1889. The Emperor in 1887, when he went to Europe on account of his health, committed the Government to the Crown Princess, Dona Isabel, whose subjection to the influence of Jesuits was generally resented. Her husband, Gaston d'Orleans, Count d'Eu, was still more disliked, and the Republicans were determined that the monarchy should end with the reign of

Dom Pedro. The Crown Princess by the interest that she showed in the abolition movement aroused the animosity of the planters, and by the sudden decree of unconditional emancipation, issued May 13, 1888, made numerous powerful and unrelenting enemies. Her opposition to religious liberty, the rose of virtue sent to her by the Pope, and the subservience to the clergy that she showed openly made the whole country distrustful of her capacity to rule. In May, 1889, João Alfredo was replaced as Prime Minister by Ouro Preto, who instituted an adventurous and extravagant economical policy, demoralized the civil service, fostered corruption, and roused the suspicion in the army, where the antagonism to the Count d'Eu and the princess regent was keenest, that he intended to supplant it with a new body, the National Guard, that could be depended on to fight for the dynasty and reactionary principles. A plot was organized among the officers to drive the unpopular ministry from power by a military revolt. The politicians of the Liberal party, the planters, and all the enemies of the Crown Princess were prepared to support the movement, and the juncture was adroitly utilized by the organizers of the plot to overturn the dynasty at the same time and to proclaim a republic, assuming themselves the chief offices in the Provisional Government. Arbitrary rule, corruption, the perversion of justice, systematic oppression, and neglect of the army and navy, and the intention avowed in the ministerial press to disband and abolish the two services and create in their stead an organization more pliant to official influence were the reasons for the revolt alleged in Marshal Deodoro's letter to Dom Pedro of Nov. 16, 1889. The revolutionary Government was composed in the beginning of the following heads of departments: Chief of the Provisional Government, Marshal Deodoro da Fonseca; Minister of the Interior, Aristides da Silveira Lobo; Minister of Finance, Dr. Ruy Barbosa; Minister of War, Benjamin Constant; Minister of Marine, Rear-Admiral Eduardo Wandenkolk; Minister of Foreign Affairs, Quintano Bocayuva.

Area and Population.—The area of the different provinces or States and their population, as officially estimated in 1888, are given in the following table:

STATES.	Square miles.	Population.
Amazonas.....	782,460	80,654
Pára.....	443,638	407,850
Maranhão.....	177,566	488,443
Piauí.....	116,218	266,983
Ceará.....	40,253	992,625
Rio Grande do Norte.....	22,195	508,592
Parahyba.....	28,854	496,618
Pernambuco.....	49,625	1,110,881
Alagoas.....	22,588	459,871
Sergipe.....	7,870	292,640
Bahia.....	164,649	1,821,069
Esperito Santo.....	17,312	121,562
Rio de Janeiro.....	26,694	1,164,468
City of Rio.....	538	406,958
Santa Catharina.....	27,436	236,346
Rio Grande do Sul.....	91,885	561,527
Minas-Geraes.....	222,160	8,018,807
Matto-Grosso.....	582,708	79,750
Goyaz.....	288,546	211,721
Paraná.....	85,453	187,548
São Paulo.....	112,830	1,986,242
Total	8,209,878	14,602,325

The number of uncivilized Indians is estimated at 600,000. There were 723,419 slaves in 1887 according to an official report, valued at \$485,225,212. Both Chambers passed an act in 1888 declaring slavery to be abolished and denying all claims for compensation, and on May 13 of that year the Crown-Princess signed the decree of emancipation. In the northern part of the country the Indian element preponderates; in Pernambuco, Bahia, Rio de Janeiro, and Minas-Geraes there is a large negro population; and in the coast towns the main part of the population is of European descent. In eighteen years ending with 1888 a half-million of immigrants are said to have entered the country through the ports of Rio and Santos. In 1888 the number of settlers arriving in southern Brazil was 181,268, of whom 115,000 were Italians and the rest Portuguese, Germans, and Spaniards. The number of arrivals in 1887 in the same region was 55,986; in 1886, 25,135; in 1885, 30,135. In several States there are laws for compulsory school attendance. The number of children in the schools, public and private, was estimated in 1889 at 300,000. Of the total population 84 per cent. is reported to be unable to read or write. The Roman Catholic was the established religion of the empire, but the republican Government has abolished the connection between church and state, while continuing the stipends of the clergy that were formerly provided by the state and agreeing to support the chairs in the theological seminaries for at least one year longer. The individual States can subsidize the Roman Catholic or any other form of religion.

Commerce and Production.—The total value of the imports in 1888 was 260,999,000 milreis, and of the exports 212,592,000 milreis. The values of the principal exports for the year ending June 30, 1887, were as follow, in milreis (the milreis = 55 cents):

EXPORTS.	Value.
Coffee.....	187,000,000
Sugar.....	16,090,000
Cotton.....	15,120,000
India-rubber.....	5,200,000
Tobacco.....	6,250,000
Hides.....	5,960,000
Cacao.....	1,680,000
Paraguay tea.....	8,600,000
Gold dust.....	1,200,000
Diamonds.....	860,000
Hair.....	210,000

The export of coffee from Rio was 413,756,000 pounds, valued at 106,274,358 milreis. Of the total exports of Brazil about one third go to the United States, the same proportion to Great Britain, and one tenth each to France and Germany. Of the imports Great Britain furnishes nearly one half, France one sixth, and Germany one eighth. The United States in 1888 imported 54 per cent. of the total, a smaller proportion than Portugal, and not much greater than Belgium supplied. The largest imports are cottons and wines and spirits, the next most important being preserved meat and fish, woollens, flour, coal, linen goods, and iron and steel manufactures.

Only a small part of the cultivable soil of Brazil has been made productive, and little has been done to utilize the valuable resources of the mines and forests. The vast deposits of iron ore can not be worked for want of fuel. Coffee is cultivated extensively in Esperito Santo, Mi-

nas-Geraes, and São Paulo. There were 90 cotton mills in operation in 1888. The number of cattle in Brazil is estimated at 17,000,000.

Navigation.—During 1888 the number of vessels engaged in ocean commerce entered at the ports of Brazil was 3,243, of 2,391,022 tons, of which 2,858, of 2,416,464 tons were foreign and 385, of 174,558 tons, Brazilian; the clearances numbered 2,300, comprising 2,267 foreign vessels of 2,346,682 tons, and 123 Brazilian vessels, of 701,103 tons. The coastwise movement was 1,545 foreign and 3,279 Brazilian vessels, of an aggregate capacity of 2,131,373 tons, entered, and 1,342 foreign and 3,290 Brazilian vessels, measuring 2,410,006 tons, cleared.

The mercantile navy in 1888 consisted of 89 steamers and 115 sailing vessels.

Railroads.—In 1889 there were 5,582 miles of railroads in operation, 984 miles building, and 4,938 miles in contemplation. The state owned 1,444 miles of the completed roads and had guaranteed 1,748 miles belonging to companies, while 1,754 miles more had been guaranteed by the provincial governments. The capital expenditure on the state lines had been 161,286,720 milreis, and on all the railroads 488,148,327 milreis. There were 7,315,486 passengers and 1,820,106 tons of freight conveyed in 1887, the receipts amounting to 38,202,450 milreis and the expenses to 25,444,569 milreis. The receipts in 1888 on the state lines were 14,183,761 milreis, and the expenses 9,059,034 milreis.

The Post-Office and Telegraphs.—The length of telegraph lines in 1889 was 10,720 kilometres, or 6,700 miles, with 18,489 miles of wire. The number of dispatches was 567,935; the receipts, 1,523,200 milreis; expenses, 2,427,980 milreis.

The Army and Navy.—Obligatory military service was introduced by the law of 1875, which allows substitution or the purchase of exemption by the payment of 1,000 milreis. The period of service is six years in the regular army and three years in the reserve. The reorganization of the army was begun in February, 1890. Its strength was fixed by a decree of the Provisional Government at 24,877 men of all arms, six battalions of infantry, two regiments of cavalry, and one of artillery being added to the former establishment. The strength of the forces on the peace footing in 1889 was reported as 956 officers and 15,689 troops, comprising 774 engineers, 2,572 artillery, 2,410 cavalry, 9,531 infantry, and 403 in the transport service. There were besides 6,850 gendarmes.

The most powerful vessels in the navy are two turret ships built in England, the "Riachuelo" and the "Aquidaban," protected by a belt of 11-inch steel-faced armor, and carrying 4 20-ton breech-loading guns, besides machine guns and 70-pounders. Two other sea-going armor clads, two powerful vessels of light draught, plated with 10-inch armor and carrying 4 10-inch guns, each mounted in two turrets, and four other vessels for coast defense complete the iron-clad navy. The principal unprotected vessels are three first-class cruisers, including one that is not finished, and two of the second class. The torpedo fleet comprises five boats of the first class, six of the second class, and three of the third class. There are also a torpedo school ship, two training

corvettes, nine screw gunboats, eight side-wheel gunboats, and two transports.

Finances.—The revenue for the eighteen months ending Dec. 31, 1887, was 201,425,000 milreis and the expenditure 229,663,800 milreis. In that year the fiscal year, which used to end on June 30, was made to correspond with the calendar year. Dr. Barbosa, who adopted the budget for the last year of the empire as the basis of that of 1890, estimates the annual revenue and expenditure at 150,000,000 milreis. The budget voted for 1889 fixes the expenditure at 153,000,000 milreis. The total national debt on Nov. 14, 1889, was 1,072,092 contos or thousands of milreis, of which 270,396 contos represent the funded foreign debt, 543,585 contos the domestic funded debt, and 258,111 contos the floating debt, inclusive of paper money, savings-bank funds, etc.

Decrees of the Provisional Government.

—The revolution was accomplished without bloodshed or disturbance. Business was interrupted only for a day. The republican form of government was hailed with enthusiasm by a large part of the population, especially by the youth of the country. Students and clerks formed military companies and armed and drilled themselves for the defense of the republic. The new rulers kept a sharp watch on all telegraphic intercourse and news agencies, but otherwise betrayed no repressive tendencies. Their policy in its earliest manifestations was to reverse the most unpopular characteristics of the imperial *régime*, which were ecclesiastical influences and centralization of power. From all parts of the country came addresses expressing gratified recognition of the new order of things. The emblems of monarchy disappeared, and after a few days nothing was seen or heard to indicate that the people had ever lived under an empire. No hostile party showed itself, and the early acts of the Government were received without murmurs when not with approval. Only in Rio Grande do Sul and Bahia were there signs of disaffection, and even these provinces were brought into line. Gen. Visconde de Pelotas entering on his office as Governor of Rio Grande with a patriotic proclamation. The navy, the sentiments of which were doubtful, declared for the new Government. The ministers devoted themselves diligently and earnestly to reorganizing their departments. Officials who adhered to the monarchy were allowed to retire, and a few were discharged. The majority remained in their places.

The empire was converted into a confederation of twenty States, consisting of the former provinces, the capital, with its 400,000 inhabitants, being declared a neutral district. A decree was issued on Nov. 19, 1889, declaring every Brazilian citizen who can read and write to be a voter, unless he has been deprived of his civil or political rights, the electoral process being left to the Minister of the Interior to determine. By the decree of Nov. 20 the provincial assemblies were dissolved, and for the interval that must elapse before the adoption of a republican system most extensive powers were confided to the governors, who were authorized to fix the civil, judicial, and ecclesiastical divisions, to select a place for the capital, to supervise the pub-

lic and private schools, to expropriate private property for public purposes, to fix the expenditures of the state and to impose and collect taxes, to create offices and appoint civil functionaries, to plan and make contracts for public works, to organize and discipline the police, and to suspend judges appointed for life and dismiss other officials. The dangers of decentralization began immediately to impress themselves on the Provisional Government, for only three days later a decree was issued reserving to the federal authorities the appointment of governors, chiefs of police, State secretaries, judges, and postmasters. The assumption of powers never possessed by the Emperor caused the cry of "military dictatorship" to be raised by old republicans as well as monarchists, and before the new Government was two weeks old it began to arrest obnoxious citizens, one of the first being Silveira Martins, who headed the opposition in the southernmost province. In Maranhão and in several smaller places the negroes rose in insurrection, fearing that they would be reduced to slavery again. The Emperor, whose debts were said to amount to 2,000 contos, refused to accept 5,000 contos that the Government offered to him in addition to the civil-list dotations that were continued during his life and that of the Empress. Perceiving in his rejection of money not voted by Parliament a denial of its authority and the assertion of a claim to the throne, the Government canceled the gifts, declared the civil list extinguished, pronounced a decree of banishment against the Emperor and all his family, and ordered the liquidation of his estate in Brazil within two years. On Dec. 7 the Municipal Chamber of Rio de Janeiro, a nest of political corruption and fraud, was dissolved and superseded by a committee. On Dec. 15 a naturalization law was promulgated declaring every foreigner residing in Brazil at the time of the revolution to be a Brazilian citizen possessing equal civil and political rights with native-born citizens, except eligibility to the office of chief executive of a State, provided he did not within six months from the date of the decree record his intention of preserving his allegiance to his native country; also every future foreign immigrant after a residence of two years in Brazil. This measure was very acceptable to Germans and other foreigners who desired a voice in the conduct of public affairs, and especially so on account of its novel form, relieving them of the necessity of renouncing their native country. The British Government instructed its consular agents to give public notice to British subjects in Brazil that they would lose their civil rights in Great Britain if they submitted to tacit naturalization. The German Government took no steps because Germans can exercise the rights of citizenship in a foreign country without forfeiting any of their rights as born German subjects other than that of the protection of the diplomatic authorities, unless by an act of formal abjuration provided for in treaties. Between several governments an exchange of views took place in reference to a protest against the novel and sweeping method of naturalization introduced in Brazil. The law was modified in June by a new decree to the effect that foreigners neglecting to register their intention still remain

citizens of the country of their nativity unless by voting or other acts they availed themselves of the privileges of Brazilian citizenship. Before the close of 1889 the Governments of Chili, Peru, Bolivia, Argentina, Uruguay, and Switzerland had recognized the new republic. The governments of the United States and of European countries instructed their diplomatic representatives to hold friendly intercourse with the Provisional Government, save the Government of the Czar, who refused to acknowledge even the *de facto* existence of the republic. Baron de Penédo, the Brazilian minister to Paris, was the only important diplomatic representative abroad who resigned on the establishment of the republic.

The names of vessels of the navy and of public institutions were altered where they were borrowed from the banished dynasty. The servile obsequiousness of the old forms gave way to a simple *Vos* at the beginning and *Salude e fraternidade* at the close of official letters. The crown on the buttons of the soldiers and sailors was replaced by a star. A new flag was adopted, consisting of a blue sphere in a yellow square on a green field, the sphere showing the southern star and twenty-one other stars representing the States (including the prospective State to be formed from the present capital), with the words *Ordem e Progresso* on a white band extending across the flag from left to right. Titles of rank were abolished, yet those possessing them are allowed by courtesy to bear them still. An order of the Legion of Honor was created and the military cross was retained. All other orders were abolished. Besides developing an extraordinary activity themselves, the provisional rulers set commissions at working out reforms of superior and public education and other institutions. The decrees that were issued from time to time were all signed by Marshal Manoel Deodoro da Fonseca as "executive head of the Provisional Government, established by the army and navy, in the name of the nation." The resolutions adopted at the Pan-American Congress in favor of settling all disputes arising between American republics by arbitration were accepted by the Government in April as governing the future conduct of Brazil.

Attempted Counter-Revolution.—While European monarchists were expecting to see the most popular of contemporary sovereigns triumphantly recalled to his throne, the classes engaged in Brazil in commercial and productive activities showed the greatest satisfaction with a Government that preserved better order than existed under the empire. Still there were elements of dangerous disaffection among the officers of the army and the old politicians who were unwilling to be permanently thrust aside by the new men that had grasped power, although no one would strike a blow for the Emperor. The ferment began when the members of the Government showed a determination to consolidate and perpetuate their position by postponing the calling of a constituent assembly to frame a constitution. The creation of disturbances by banded rowdies and desperadoes known as *capangas* and *capoeiras* was a familiar sign that rival politicians were trying to undermine the men in power. The Provisional Government displayed more en-

ergy in dealing with this rabble than was ever witnessed in the time of the empire, transporting 400 to the penal settlement of Fernando de Noronha and locking up 1,500 in Rio.

The plans of the imperialists, who worked in secret among the lower classes and the *soldatesca*, were upset by a premature explosion in their mine, a mutiny in the artillery barracks on Dec. 18. During the absence of the officers some men of the Second Regiment of mounted artillery engaged in a fight, and in order to escape punishment they attempted to precipitate the revolt for which they had been prepared. One half of this regiment, a part of another, and a few cavalrymen marched to the different barracks, calling on the army to rise against the dictators. Then, headed by civilian leaders, they went to one of the palaces, tore up the republican flag, and hoisted the flag of the empire. It required all the other regiments to subdue the insurgents, and the fighting lasted nearly all night, one hundred imperialists being killed or wounded before they were driven back to their barracks and put under guard, after which twenty-one civilians and soldiers were summarily tried and shot as ringleaders. Not a single commissioned officer was concerned in the mutiny. Within the next few days fifteen prominent citizens, including the brother of the Minister of Agriculture, five ex-ministers, the ex-President of the Senate and two other Senators, several Deputies, and the ex-chief of police, were arrested. Silveira Martins, whom the Emperor had summoned to form a new Cabinet when the revolution broke out, was banished, and decrees of banishment were issued against Ouro Preto and other imperialist statesmen who were already in Europe.

On Dec. 20 the general dread of an indefinite prolongation of arbitrary government was in a measure allayed by a proclamation fixing a date, though a distant one, for the constitutional convention. The elections, by list tickets in the several States, were announced for Sept. 15, 1890, and the date for convening the *constituinte* in the capital was placed two months later. The leaders of the revolution had not intended to expose their work to the risk of being undone by a popular assembly, for they had already set to work to embody their own ideas in a constitution elaborated by a commission under the presidency of Saldanha Marinho. The overt act of insurrection impelled them to establish a military dictatorship in fact. On Dec. 23, on the plea that it was their duty to do everything in their power to preserve peace, order, and security until a regular constitutional form of government could be established, they announced by proclamation that all persons found conspiring against the republic or its Government, or who by word, writing, or acts incite citizens to revolt or encourage breaches of discipline in the army, or any who by bribery or other inducements attempt to seduce soldiers from their duty toward their superiors and the republic, or spread false and subversive ideas in the army or navy, or with intoxicating drinks excite the soldiers to insubordination, will be tried by a military commission, to be appointed by the Ministry of War, and punished according to the military regulations against mutiny. The supervision of correspondence and censorship of telegrams became more

stringent. On Jan. 15 Marshal Deodoro da Fonseca assumed the rank of generalissimo on the invitation of the officers of the army and navy. The police in Rio were increased, and whenever *capangas* collected in gangs they were arrested and scattered by deporting them to distant parts of the country.

Separation of Church and State.—On Jan. 7 the decree of the Provisional Government was issued proclaiming the separation of Church and state and guaranteeing religious equality. The interference of public officers with the formation of a religious society is forbidden. To stir up religious dissensions between the inhabitants of the country is an offense against the law. Every confession can worship according to its own rites, and every person is at liberty to live according to his individual faith and without interference of the authorities to unite in a society with others and build churches. Each church and religious society is regarded as a legal person. The stipends of teachers in the seminaries and of persons in the service of the churches were continued, but only for one year. Existing churchyards were secularized, and the establishment of new cemeteries is the affair of the communes, though religious bodies can select separate burial places, subject to the regulations ordained by law. By another decree, all religious holidays, except Sundays, were deprived of their legal sanction, and nine holidays commemorative of secular events were legalized. This was followed by a civil-marriage law based on the American and French laws. The decree also introduced divorce, although in a form bearing marks of a popular sentiment derived from religious teachings, inasmuch as neither party is permitted to marry again during the life of the other.

Boundary Settlement.—Senhor Bocayuva met plenipotentiaries of the Argentine Republic, Uruguay, and Paraguay in January at Montevideo, where the long-standing boundary disputes concerning the territory called the Missões were settled on the basis of arrangements already made during the ministry of Viscount Ouro Preto.

Financial Difficulties.—Although Rothschild, who has been for many years the financial agent of Brazil in Europe, continued his relations with the Government and endeavored to sustain values, other financiers in Paris, London, and Lisbon canceled contracts and withdrew capital from Brazil. The result was a great fall in exchange that the Minister of Finance tried to stop by sacrificing 10,000 contos of the public money, which had only a temporary effect. The cadets of the Military Academy, indignant that the repugnance of Europeans to free institutions should act as an impediment to the establishment of a republic in Brazil, proposed that voluntary subscriptions should be taken for the purpose of paying off the foreign debt. As such a foolish operation was more likely to impair than to help the credit of the Government in Europe, Dr. Barbosa, not wishing to check a patriotic impulse, suggested that the collections, which in the end were insignificant in amount, should be applied to the reduction of the internal debt. The countenance that he gave to this quixotic project spread abroad an impression of the minister's inexperience that he fully bore

out by his own projects. Increasing the salaries of the ministers and all the expenses of government and doubling the army made the position of the Government easier and safer for the moment, but added immensely to the troubles and dangers it would have to encounter later on. The Government could draw on London and Paris for 34,554 contos, the unexpended balance of Ouro Preto's last loan of 100,000 contos, and the available amount was reduced by 7,840 contos of outstanding obligations. On Jan. 18 he announced a project that was expected to enable the Government to get rid of the internal debt and at the same time to promote enormously the prosperity and material development of the country and rally to the support of the republic powerful financial interests. His plan was to establish four banks of issue in Rio de Janeiro, Bahia, San Paulo, and Porto Alegre, with a capital of from 100,000 to 200,000 contos of reis each, with authority to emit notes to the amount of the Government bonds held by them; with provision for extinguishing the bonds by a sinking fund composed of a certain proportion of the profits of the banks. Besides carrying on the regular banking business, the banks were authorized to lend on mortgages, to engage in agricultural and industrial enterprises, undertake public and private contracts, and participate in trading operations and innovations of all kinds. The state agreed to allow them to import all their materials free of duty, to grant them the preference in giving out railroad and other contracts and concessions, and to grant them land without payment for founding colonies and industrial establishments. These extensive privileges alarmed not only the existing credit institutions, but the whole commercial community, foreign and native, and created intense distrust where the Government had hitherto met with praise and satisfaction. On Jan. 17 foreign banking institutions were notified that they would not be allowed to do business unless two thirds of their capital was in Brazil. Dr. Demetrio Nunez Ribeiro, who disapproved of the scheme of the Minister of Finance, resigned on Feb. 1, and was succeeded as Minister of Agriculture by Francisco Glycerio. His resignation was followed in a few days by that of the Minister of the Interior, in consequence of complaints against his administration. He was succeeded by Dr. Cesario Alvin. The opposition in financial circles led Dr. Barbosa to modify his plan by fixing the capital and circulation of the new banks at less than one quarter of the sum originally intended and to grant existing banks the right to issue notes secured by a gold reserve. In Rio Grande do Sul the monopoly of the new bank was opposed on political grounds as an outrage on the rights of the States. The discontent culminated on May 13 in a rising at Porto Alegre, where the populace attacked the new bank building, and the troops, after firing a volley and killing or wounding sixty-seven persons, joined the insurgents in deposing the Governor. In the two northern States, where imperialism and separatism are prevailing sentiments, there were likewise disturbances. The people of Bahia drove away the republican Governor. The disturbances in Rio Grande resulted from a breach between the Old Republicans and Barbosa regarding the bank,

and they were preceded by the resignation of the chief Federal officials in that province, friends of ex-Minister Ribeiro. Another decree of the Minister of Finance ordering 20 per cent. of all duties to be paid in gold caused much dissatisfaction. On Aug. 2 the Government issued a charter for a national mortgage bank with a capital of 100,000 contos of reis in gold. Dr. Ruy Barbosa was finally ousted by his republican antagonists on Aug. 20, when he was replaced by Gen. Floriano Peixoto, who had formerly been adjutant-general of the army, and since April had administered the Ministry of War. Senhor Benjamin Constant, one of the leading spirits in the revolution and author of many of the acts of the Provisional Government, had been a professor in the Military Academy under the empire. He retired from the War Department because the soldiers preferred a minister more closely connected with the service, and was placed at the head of the new Ministry of Public Instruction and Posts and Telegraphs. In this post he showed his activity of mind by devising a plan for the reform of the primary schools, which have been starved while superior instruction has been lavishly provided by the state.

The New Constitution.—When the republican Constitution was drafted the members of the Government concluded that it would be simpler and safer to promulgate it at once without the intervention of a specially elected constitutional convention. It was proclaimed on June 22, subject to the ratification in November of the Congress elected under its provisions on Sept. 15. It institutes a Federal Government modeled in all its chief functions and limitations after that of the United States. The first President will be elected by Congress, and future presidents by the people. He is declared responsible only to the nation, and will choose his Cabinet, consisting not of ministers responsible to Parliament, but of secretaries of state responsible solely to him. His term of office is six years, and he can not be re-elected till ten years have passed. He is elected indirectly by electors, as in the United States. A Cabinet office disqualifies, unless resigned six months before election. The members of the House of Representatives are elected for three years, Senators for nine years. Each State sends three Senators, of whom one retires every third year. The members of the popular branch are elected directly in districts so bounded as to embrace a population of seventy thousand each. The States will be self-governing under forms that must be republican. If after two years any State shall have neglected to frame a constitution Congress shall impose on it the constitution of one of the other States with only necessary modifications. All existing imposts cease at the end of two years from the adoption of the Constitution. The judges of the existing Supreme Court retire on pensions as soon as the Constitution passes into force, and a Federal judiciary will be created with a supreme court consisting of fifteen judges nominated for life. Duties on exports are not to be imposed after 1897. The Federal Government shall not grant public lands to companies, but may guarantee interest on capital for a maximum period of ten years. A Federal district will be the seat of Government, dif-

fering from the District of Columbia in having the same electoral privileges as a State, with representation in both Houses and in the electoral college. Suffrage is the right of all who can read and write, excepting beggars, private soldiers, and members of religious orders, companies, congregations, or communities that impose conditions of obedience. Every citizen may do or leave undone whatsoever he pleases providing he infringes on none of the rights of others. He may profess and practice any religion, and may teach or learn whatever he desires, and select the way of life that pleases him best. He shall have the right of free speech. Every citizen may ask whatever he pleases. All persons are equal before the law, and no titles, distinctions, privileges, or decorations are recognized by the State. Every citizen's house shall be inviolable. All persons may enter or leave the country at their pleasure. Citizens may assemble in public or private meetings without police interference. Amendments to the constitution must be proposed by one third of the members of both Houses and carried after three debates and votes by a two-thirds majority of the entire Congress. Separation of church and state and obligatory civil marriage are made a part of the fundamental law. The States may regulate elementary education, but the schools must be free to all. Unnaturalized foreigners have the right to vote for municipal officers.

BULGARIA, a principality in southeastern Europe, tributary to Turkey. The Constitution of 1879 vests the legislative power in a single chamber called the *Sobranje*, the members of which are elected by universal suffrage. Eastern Roumelia, now known as South Bulgaria, created an autonomous province of Turkey by the Treaty of Berlin, was united with Bulgaria in September, 1885, and in April, 1886, the Sultan, by an imperial firman, committed the government to the Prince of Bulgaria. Ferdinand, Duke of Saxony, born Feb. 26, 1861, was elected Prince of Bulgaria by unanimous vote of the National Assembly on July 7, 1887, but his election has not yet been confirmed by the Porte and the great powers. His predecessor, Alexander of Battenberg, abdicated on Sept. 7, 1886.

Area and Population.—The area of Bulgaria, including Eastern Roumelia, but excluding the Kirjali district and the villages in the Rhodope ceded to Turkey in 1886, is 38,390 square miles. The population is 3,154,375, of which number 2,326,224, or about 75 per cent., are Christian Bulgars; 607,372, or 20 per cent., are Muslims; 58,326, or about 2 per cent., are Greeks; and the remainder are Serbs, Roumanians, Russians, gypsies, and others.

Finances.—In the budget for 1890 the revenue was calculated at 64,549,030 lei, and the expenditure at 70,730,062 lei. The chief sources of income are direct taxes, yielding 38,880,000 lei, and customs and excise duties amounting to 11,824,000 lei. The expenditure for military purposes is estimated at 23,281,584 lei; for the Department of the Interior, 8,292,129 lei; for the public debt, 2,600,000 lei; for public works, 7,655,243 lei; for financial administration, 10,900,969 lei; for public instruction, 4,519,200 lei. The public debt is made up of 26,545,626 lei standing against Bulgaria as the cost of the Rus-

sian occupation, which is to be paid off by 1896, and a loan of 50,000,000 lei contracted in 1887. In addition to these obligations Bulgaria has engaged to pay 130,000 Turkish liras per annum as the Eastern Roumelian contribution. The Bulgarian tribute and share in the public debt of Turkey have not been fixed by the signatory powers as provided in the Treaty of Berlin, and the debt is not counted among the liabilities of the country. The Russian debt was to be paid off in semi-annual installments of 400,000 rubles. For two years they were regularly paid, and after that the matter remained in abeyance till March, 1890, when the Russian Government demanded and received the nine half-yearly installments then overdue. After an experimental attempt to collect a land tax, the Government returned in 1889 to the old system of tithes with great profit to the treasury, as an abundant harvest was contemporaneous with a rise in the price of wheat to figures never reached before, owing to the direct railroad communications with western Europe. The budget for 1890 shows a deficit of 8,544,150 lei, which will undoubtedly be made good out of arrears of taxes still outstanding, economies in expenditure, or receipts in excess of the estimates. The revenue is almost invariably underestimated. In the twelve budgets voted since Bulgaria has had a separate government there is a nominal total deficit, yet in every instance the receipts either balanced the expenditure or showed a surplus.

Commerce and Production.—Of the total area of the two Bulgarias about one fourth is cultivated, four fifths of the cultivated land being devoted to wheat. The amount of the trade with various foreign countries in 1888 is shown in the following table, which gives the values in lei or francs:

COUNTRIES.	Imports from.	Exports to.
Great Britain.....	19,519,827	10,275,628
Austria Hungary.....	18,192,384	2,628,668
Turkey.....	9,870,644	27,747,683
France.....	8,401,292	18,888,006
Russia.....	8,605,139	81,260
Germany.....	4,890,408	265,012
Roumania.....	2,248,006	2,875,976
Italy.....	1,007,351	1,020,599
Belgium.....	1,838,776	622,968
Switzerland.....	1,001,739	.....
Servia.....	1,484,381	267,683
United States.....	144,668	.....
Greece.....	285,589	755,974
Netherlands.....	28,611	.....
Other countries.....	.....	8,633,602
Total.....	66,385,497	68,508,009

The chief article of export is wheat. The export of grain from South Bulgaria alone in 1888 was valued at 11,650,000 francs, and that of attar of roses at 2,625,000 francs. Other exports are wool, cheese, skins, butter, and prunes. The largest imports are cotton, iron, wine and spirits, timber, sugar, salt, and petroleum.

There were 256 vessels, mainly Austrian, of 274,261 tons, entered at the port of Varna, and 553, of 101,657 tons, cleared in 1888.

Railroads.—There were 432 miles of railroad in the entire principality in 1880, with connections with the Turkish railroads and with the general European system through Servia. The new line from Jamboli to Bourgas, 68 miles, was opened on May 26, 1890. Lines between Roman

and Tirnova, 175 kilometres, and between Tirnova and Kapidshan, 160 kilometres, are expected to be completed by May 1, 1891.

The Post-Office and Telegraphs.—There were 2,750 miles of telegraph lines in 1888, all belonging to the Government. The number of messages transmitted during that year was 620,692. The number of letters, papers, and other articles sent was 5,506,822.

The Army.—The army is organized in 3 divisions of 2 brigades. The peace effective is about 32,000 officers and men, which can be trebled in case of war. The fleet consists of 3 war vessels, 10 small gunboats, and 2 torpedo boats. The infantry have been armed with the Mannlicher repeating rifle, and the artillery is provided with 280 guns of large caliber. The Servians, since the abdication of King Milan, have maintained a menacing attitude toward Bulgaria, and both countries have proceeded to fortify the frontier and have held troops in readiness. In September, 1889, the Bulgarian Prime Minister, expecting an outbreak of hostilities, obtained an emergency credit from the Sobranje of 5,000,000 lei, and half the Bulgarian army was called to arms. The Bulgarian fortifications on the plain of Slivnitsa are in a more advanced stage than the Servian works at Pirot, Saitchar, Negotin, and in the Timok valley, which are being completed according to the recommendations of officers of the Russian general staff, who visited the frontier in the beginning of April, 1890. To the forts already built the Bulgarians intend to add steel revolving turrets like those adopted for the defense of Bucharest. The Bulgarians could mobilize 75,000 troops at once, and are financially in a much better position than the Servians for carrying on war, but they have no officers of experience and ability, as all those who commanded in the late war have for political reasons been disgraced, banished, or shot.

Diplomatic Disputes.—As Austrian influence vanished from Servia and declined in Roumania, the Austrian Government began to support more openly the Bulgarians in their resistance to Russian domination, and Russian diplomacy took the attitude of opposition to the same claims and wishes of the Bulgarians that formerly it seconded. In the autumn of 1889 Count Kalnoky nearly induced the Porte to recognize the union of the two Bulgarias and the Government of Prince Ferdinand. In thwarting this design the Russian Government showed more consistency than the Vienna Foreign Office. A loan of 30,000,000 lei that was taken by the Austrian Lnder Bank, with the countenance of the Austro-Hungarian authorities, was placed on the market in Vienna, Pesth, and Trieste in January, 1890, and was subscribed six times over, notwithstanding the warning by which previous loans had been defeated that when Russia became predominant in Bulgaria every act of Prince Ferdinand's Government would be repudiated. On this occasion, departing from the official reserve that it had maintained in Bulgarian affairs for three years, the Russian Government, in a note to its diplomatic representatives abroad, protested against the loan as an infraction of the Treaty of Berlin because it pledged the receipts of one of the Eastern Roumelian railroads. Egged on by Russia, the Porte

had shortly before ordered a commissioner to proceed to Sofia for the purpose of interfering in the administration of the railroads, and desisted on receiving representations from the Austrian ambassador and explanations from Vulkovich, the Bulgarian agent. The Russian ambassador endeavored to persuade the Turkish Government to protest against an Anglo-Bulgarian Commercial Convention. In regard to the Jamboli-Bourgas Railroad, the Russian note claimed that the rights and obligations of the Sublime Porte with respect to the Eastern Roumelian railroads were maintained in their entirety by the Treaty of Berlin, and, further, that its hypothecation impaired the security for a debt due to Russia on account of the occupation of Eastern Roumelia. The Bulgarian Cabinet answered that the line in question formed but a small part of the North Bulgarian system affected by the loan; that the Sultan, in appointing the Prince of Bulgaria Governor-General of Eastern Roumelia, had essentially ceded his rights in that province, and that the sum due on account of the occupation of Bulgaria was ready, and had accumulated in bank since Russia first declined to hold communications with the Bulgarian Government. The Russian Government did not longer neglect to claim the money, which was applied to the uses of Russia, notwithstanding the promise that it should never be withdrawn from the country, but should be employed to build up institutions for the benefit of Bulgaria. The powers took no notice of the Russian protest, save Germany, who supported it, and the Turkish Cabinet declined to take any action. The acceptance of the payments of the costs of the Russian occupation was considered an indirect recognition of the legality of Prince Ferdinand's Government, though it was not so interpreted by Russia.

A new quarrel broke out in February between Bulgaria and Serbia. The Servian Government, having instituted a political propaganda in Macedonia, offered to give twenty young Bulgars from the Turkish provinces a free education in the College of St. Sava. They accepted the offer, but, when they found that the price they were expected to pay was to deny their nationality and language and become propagandists of the idea that all Macedonia was Servian, nineteen of them applied to Minkovich, the Bulgarian agent at Belgrade, to send them to Sofia. He complied, and the Servian Government demanded his recall and punishment and an official avowal that he had acted improperly, and denounced him to the Porte for illegally issuing Bulgarian passports to Turkish subjects. In spite of this the Bulgarian Government expressed its full approval of the course he had taken. The Servian Government showed a determination to break off diplomatic relations, and when it seemed likely that war would result from this trifling incident, the Austro-Hungarian agent at Sofia, M. de Burian, vigorously interfered to induce Stambuloff to give way and thus escape the trap prepared by Russian intrigue. Minkovich was recalled and a new agent appointed, without even demanding that Serbia should send a regularly accredited diplomatic agent to Sofia instead of the secretary who was acting as agent.

The racial jealousy of the Balkan peoples was rekindled, and a fierce controversy between the organs of opinion in Bulgaria, Serbia, and Greece was set going by a Machiavelian proceeding of the Slav Benevolent Society, presided over by Count Ignatieff, which is the central agency of Pan Slavistic propaganda. In its annual "Almanach" it published a map, accompanied with tables, showing that the entire Slav population of Turkey, including the inhabitants of Old Serbia, are Bulgarian in language and race. In May, Dr. Vulkovich went to Athens for the purpose of seeking a confidential understanding as to which parts of Macedonia should be considered Bulgarian and which Hellenic. He found the Greek Government determined to abate none of its extravagant claims to the greater part of Macedonia, which are based on the fact that before the establishment of the Principality of Bulgaria the Christian Slavs of Turkey claimed Greek nationality, in order to enjoy the protection of the Greek consuls. The Roumanian Government, which, by fortifying the capital and increasing its army, proved that its quarrels with Austria-Hungary do not blind it to the dangers from Russia, concluded in April a convention with the Bulgarian Government to prohibit persons reasonably suspected of being political conspirators from residing in the towns on either bank of the Danube, with the object of preventing refugees and agitators in the pay of the Pan Slavist committees from carrying on their mischievous operations in these frontier places. The Austro-Hungarian Government followed the example of Great Britain in negotiating a commercial treaty with the Bulgarian Government without the intervention of the Porte. On the expiration on March 13, 1890, of the treaty of commerce between France and Turkey, the Bulgarian Government gave notice that French merchandise would be subject to the general tariff unless the French Government would enter into a separate commercial convention with Bulgaria. This the French Cabinet hesitated to do for fear of offending Russia.

The Panitzza Conspiracy.—The Bulgarian peasants, who formerly lived under the delusion that the rule of the Osmanli was the cause of every ill and that the tax collector was a specifically Turkish institution, when they discovered that under their National Government the taxes were higher and more rigorously collected, and that in addition there was the military service that took away the young men when they were needed in the fields, listened readily to native and international agitators who sought to persuade them that the public funds were wasted in the luxuries of the court and embezzled by the ministers, that Prince Alexander's only object in coming to Bulgaria was to acquire a fortune, and that the country would never thrive except under an orthodox ruler and in the enjoyment of the protection and bounty of the Czar. When the Battemberg prince showed a determination to frustrate Muscovite plans, there gathered about the Russian consulates and legations in the Orient a swarm of malcontents of every kind—disappointed office-seekers, superstitious priests, and mercenary adventurers—the success of whose efforts to overthrow the throne of the "German" was only delayed by the brilliant victories of the

Servian War; and when Alexander was finally driven to abdicate, the event caused much more excitement abroad than in Bulgaria. The Russian Government since the revolution of Philipopolis has treated the *de facto* Government at Sofia as illegal, and waited for the people to upset it and throw themselves into the arms of their deliverers. Unofficially all possible aid and encouragement has been given to revolutionaries and conspirators. The regents carried arbitrary government to a pitch unknown under Alexander, and Stambuloff, as Prince Ferdinand's Prime Minister, went still further, suppressing the liberty of the press, violating the mails, overawing the courts, driving into exile the leaders of hostile factions, and removing from the army or from civil office every man whose loyalty was suspected. These high-handed measures silenced for a time all open opposition, but they created more discontent than ever existed before among politicians and military men, because the most distinguished men were passed by and all the high civil posts were given to tools of Stambuloff and the chief commands in the army to young friends of Mutkuroff, his brother-in-law, whom he made Minister of War. In the country at large Ferdinand held a stronger position than his predecessor, because the expenditures of the Government began to bear fruit, improved communications brought greater prosperity, and there came good harvests, for which the Government got the credit. Still the pro-Russian sentiment was not extinguished. It was strong among the country-folk on the plains, and predominated in some populous districts, such as Peshtera, Tehirpan, Haskovo, and the Stara Zagora. Among the older generation of peasants it is ineradicable, for they were taught from childhood to look for deliverance and happiness to their Orthodox Russian brothers. And many of the educated classes have believed it impossible for Bulgaria to live and prosper under the ban of Russian ill-will. The vindictive and tyrannical course of Stambuloff, "the Bulgarian Czar," has raised a multitude of enemies who would like to see his iron rule violently ended. The disaffection in the army reached a point where it became unsafe to use strong measures to check it.

Among the most distinguished officers of the army was Major Panitza, one of Prince Alexander's favorites, who had been known to be hostile to Prince Ferdinand from the beginning, but still was not generally suspected of intriguing with Russian agents, because he had entered the cell of ex-Regent Karveloff and flogged him on his bare back in revenge for his share in the deposition of Prince Alexander, and had shown great zeal in suppressing the Bourgas insurrection and in urging the execution of the death penalty on the Russian Captain Nabokoff. Stambuloff in 1887, by intercepting his letters, discovered that he was carrying on a treasonable correspondence with Russian officials. As chief of artillery he did good service, yet when his turn for promotion came he was passed by for an officer who was his junior. From that time he became the leader of the dissatisfied officers, and was unreserved in his criticisms on the Government and the military administrations. When Maj. Popoff tried to supplant Col. Mut-

kuroff, and was crushed by means of a trumped-up charge of embezzlement that the public has always believed to be false, Panitza openly denounced the Premier and Minister of War. More recently he railed against them for choosing the Austrian Maunlicher rifle instead of procuring Berdan rifles from the Russian Government. Apart from the reputation and position he enjoyed in the army and his popularity with many of the officers, Maj. Panitza possessed political influence from the fact that he had mingled among the Macedonians and won their confidence and admiration to such a degree that they called him their Grand Voyvode, and when the Servian War began he raised a legion of volunteers, with which he dashed into the fight at Slivnitsa at a critical moment.

Among Panitza's intimates was Capt. Kalobkoff, an officer in the Russian reserves, who, in the guise of a wine merchant, at Rusechuk carried on political conspiracies. By him he was introduced in 1887 to Villiamoff, secretary of the Russian legation at Bucharest. A band of conspirators, comprising civilians in various stations and officers of the army, was organized to overthrow Prince Ferdinand, upon which Gen. Damontovich was expected to enter Bulgaria as Russian High Commissioner, and Panitza would go to St. Petersburg to pray the Czar to nominate two candidates to the throne, one of whom should be Prince Alexander, who would be elected by the Sobranje. The correspondence, which was carried on in cipher with Panitza and Kalobkoff, implicates as the abettors of this design Ilitrovo, the Russian Minister at Bucharest, and Zinovieff, Chief of the Asiatic Department of the Russian Foreign Office. Zankoff, the exiled political leader, and many of his partisans were engaged in the plot. Panitza was supplied with money, which he spent freely. He found no difficulty in getting a number of officers to promise that they would join in any revolutionary attempt. Some who were reluctant were seduced by money that was distributed by Jacobson, the interpreter of the Russian legation at Bucharest, accompanied with assurances that they would merit the particular favor of the Czar by joining in the overthrow of Prince Ferdinand. Even those who refused the traitorous proposals kept the secret, such was the state of political uncertainty and so rare the feeling of personal devotion to the Prince. The plot was not considered ripe for execution till the autumn of 1889 on the return of Ferdinand from Philipopolis. The plan was to have the guard of honor arrest the Prince and his ministers at the Sofia railroad station and carry them off on a special train that was actually provided by the railroad authorities, while cavalry should scour the streets. Prince Ferdinand escaped arrest, and probably assassination, by returning to Sofia before he was expected. Panitza grew more reckless after this disappointment, and revealed to his accomplices for the first time that the plan was to kill Prince Ferdinand, Stambuloff, Mutkuroff, and Col. Petroff, Chief of the Staff. On the night of Jan. 11, 1890, he tried to induce Dr. Mirkoff, Surgeon-in-Chief, and Col. Kissoff, commander of the garrison at Sofia, to join in instigating a mutiny of the troops.

On Feb. 1, Stambuloff, after dismissing the

prefect of police, who refused to act, caused the arrest of Maj. Panitza, Lieut. Rizoff, Arnaondoff, a hotel-keeper, Kalobkoff, and others of the band. The extent of the conspiracy can be conjectured from the number of removals from office that took place and from the number of military officers who were dismissed from their posts, including the commanders of the garrisons at Sofia, Shumla, Widdin, Slivno, and Rustchuk. In May the accused persons, viz., the officers Constantine Panitza, Alexander Rizoff, Dimitri Tuleff, Christopher Chaffdaroff, Nicholas Nojaroff, Dimitri Stamenoff, Ivan Stefanoff, and Capts. Molloff and Kissinoff; the citizens of Sofia Theodore Arnaondoff, Demeter Rizoff, Stephen Matheeff, and Pantaley Kessinoff; and the Russian subject Porfiry Kalobkoff, were tried by a military court. Of the civilians Matheeff was a prominent lawyer who held relations with the Zankoffists and Rizoff, a brother of Lieut. Rizoff, was a young journalist who had served a sentence of a year's imprisonment for scurrilously attacking Prince Ferdinand in the *Christo-Bolef* newspaper that was supported from the fund handled by Panitza. The trial began on May 15, and lasted two weeks. Alexander Rizoff and others of the accused officers made full confessions. Panitza pleaded not guilty, and yet confessed to the gravest charges in the indictment, denying only that he held a correspondence with Russian diplomatists, and asserting that Col. Kissoff was the ringleader in the conspiracy. The court-martial found Panitza and eight of the persons arraigned with him guilty. He was condemned to be shot, Kalobkoff to nine years of imprisonment, and the rest to terms varying from five months to six years. Panitza's sentence was accompanied by a recommendation that the punishment be commuted to fifteen years' imprisonment with hard labor. The military court of cassation confirmed the sentence, even though it found that the preliminary examination had been irregularly conducted. Prince Ferdinand at first declined to sign the order for the execution of Maj. Panitza, and only signed it in the end, just as he was leaving for Vienna, because the ministers threatened to resign. Col. Kissoff and Dr. Mirkoff were dismissed from the service, and all those who were acquitted were expelled from the country. Dr. Stransky, who considered the trial a mistake, as it called the attention of foreign countries to the weakness of the Coburg Government, resigned the portfolio of Foreign Affairs, and the ex-ministers Stoiloff and Grekoff uttered the opinion that the Prince could not constitutionally neglect to carry out the court's recommendation to mercy. Panitza was shot on June 28. Baron Wangelheim, the German agent at Sofia, acting in behalf of the Russian Government, demanded the surrender of Kalobkoff under the capitulations, and Stambuloff complied in deference to Germany, at the same time denying that cases of felony come within the capitulations.

Ministerial Changes.—At the time of the execution of Panitza the ministry consisted of only four members. Dr. Stransky had left the Cabinet, partly because he had given offense to the Austrian diplomatic agent and was not liked by the Prince, and partly because he disapproved

the arrest and prosecution of the conspirators. Sallabatcheff, the Minister of Finance, had been forced out by Stambuloff, who suspected him of aiming at the premiership. Gontcheff, the Minister of Justice, wanted to resign with Dr. Stransky, and was dissuaded with difficulty.

The Question of Recognition.—After the discovery of the Panitza plot, Stambuloff raised the question of the formal recognition of Prince Alexander, and made overtures to the Porte looking to the establishment of an *entente cordiale* between Turkey and the vassal principality. In the latter period of Prince Alexander's reign, when the relations between Russia and Bulgaria had become strained, the idea began to be entertained in Bulgaria of establishing intimate friendly relations with Turkey and using the suzerainty of the Sultan as a rampart against Russian aggressive designs. The mutual distrust between the Bulgarian people and their old oppressors formed an obstacle when their outward relations were favorable, and the idea seemed stranded when old antipathies were reawakened by the annexation of Eastern Roumelia to the principality in 1885. The Porte with a bad grace consented to a personal union, and the Bulgarians retaliated by ceasing to pay the Eastern Roumelian tribute. Two years later Stambuloff induced the National Assembly to renew the payment of the tribute, having been persuaded by the representations of the Turkish bondholders that this act would lead to cordial relations with the Porte and lead to the legalization of Prince Ferdinand's position by the European powers. Instead of attaining this object, he placed a weapon in the hands of the Zankoffists, who pointed to the needless sacrifice of money, which they held up as a new proof that a Bulgarian Government without Russian support is impotent and doomed to speedy extinction.

When the inherent weakness of the despotic rule that the Austrian and British diplomacy had upheld because it held Russian designs in check was revealed by the Panitza affair, Stambuloff sought to rectify his position by a diplomatic move that puzzled his patrons by its audacity. In February Dr. Vulkovich reopened the question of the recognition of Prince Ferdinand at Constantinople in an informal conference with the Vizier. While the Porte consulted the representatives of the great powers in Constantinople, Dr. Stransky, the Bulgarian Minister for Foreign Affairs, sounded the powers independently, and met with encouragement in no quarter. The Italian Government professed itself willing to recognize the Prince, but declared the moment inopportune. The British Government conveyed a strong caution against making a rash move, hinting that the present rulers of Bulgaria were in too precarious a position to claim European support in an adventurous policy. The Austro-Hungarian Government warned the Bulgarian minister that he would forfeit the sympathy that had supported him hitherto if he took an imprudent step. The confidential communications of the Bulgarian Government conveyed not a simple request but a menace, and this was that if the powers having an interest in preventing Bulgaria from becoming a Russian dependency refused to strengthen his tottering position by

officially recognizing the Prince, the headstrong minister would proclaim the independence of the principality and would precipitate the Macedonian question. The question having been presented in an informal but unmistakable shape, the matter was held in abeyance for some months, except that the Bulgarian Government declined to hold further communication with the secretary of the Commissioner of *Vakufs*, who was the only representative of the Turkish Government at Sofia, or to discuss through the Bulgarian representative at Constantinople the affairs of the Oriental railroads and the subject of Mussulman emigration on the ground that they could only be properly regulated with reference to the requirements and circumstances that arise in consultation with a regular diplomatic representative of Turkey at the Bulgarian capital.

The Bulgarian demands were formally presented to the Porte in a long note addressed to Dr. Vulkovich, bearing the date of June 26, and signed by Dr. Stransky, who had already left office. It set forth that the principality had striven to fulfill its international obligations and its duties toward its suzerain and to defend its independence, which is of importance to the security of the Ottoman Empire. Despite the scrupulous care shown to merit the confidence and friendly support of the suzerain court, the Sublime Porte, after a Prince had been elected freely in accordance with the Treaty of Berlin, by its declaration of March 5, 1888, that the election was illegal and contrary to the treaty had shaken the position attained by the principality at the cost of many efforts and sacrifices. Although the Princely Government had paid the sums due to the Imperial Government and discharged its other obligations, the Porte refused to enter into direct relations with the Bulgarian Government while other powers, not united to the principality by the same political ties, maintain closer and more direct relations. The attitude of the suzerain court has disturbed the public mind, tended to check the material development of the country, and encouraged political agitators, paid by the enemies of Bulgaria, to organize plots and attempt adventures, which, had they succeeded, would have caused the ruin of Bulgaria. The Imperial Government, by withholding its concurrence and thus alienating the people of the vassal state, had confronted the Bulgarian Government with other difficulties relating to the Bulgarians inhabiting the provinces under the rule of the Sultan, as the sad position of these Bulgarians had reacted on the public mind, and caused the question to arise whether the policy of the Government was national, or was contrary to the interests of the Bulgarian nation. In Bulgaria Mussulman communities are treated more favorably than other nationalities. Muftis are paid by the state; the Turks elect deputies to the National Assembly; although they enjoy a special exemption from military service, some Mussulmans are serving as officers in the army; and the Government grants them subsidies for the support of their mosques and schools. The 2,000,000 Bulgarians living under the rule of the Sultan, on the other hand, are not placed on an equality with other nationalities, and do not enjoy the religious toleration that is characteristic of Otto-

man government in general. The Bulgarian exarch, who, according to the imperial firman of 1870, is the head of the Bulgarian Church, no longer has the place that he formerly enjoyed. The Greek patriarchate, which opposes the administration of Bulgarian churches and schools by the exarch, has no claim to jurisdiction over the Bulgarians, because it excommunicated all who recognized the exarchate. In Bulgaria 60,000 Greeks have three metropolitans, though none of the Balkan states permit bishops dependent on the exarch to minister to Bulgarians, and in Turkey the patriarchate throws every obstacle in the way of execution of the firman of 1870 and of establishment of Bulgarian schools and newspapers. The note complains also of the display of military force and the increase of fortified posts along the Ottoman frontier. The demands formulated in the note are that the Porte shall enter into direct relations with the Bulgarian Government and afford it the moral support to which it is entitled and which is necessary for its existence; and that Bulgarians in Turkey shall enjoy the rights and immunities guaranteed by imperial laws and international treaties, which are granted to all other nationalities. If after this appeal the Porte refuses the legitimate demands for the recognition of the Prince and his Government and the recognition of the rights of the Bulgarian Church, "it will afford evidence that the suzerain court has henceforward withdrawn all protection from the vassal principality in abandoning it to its fate, and the Princely Government will, to its deep regret, find itself obliged to seek in its own resources the means of escaping from a position full of uncertainty and danger."

In urging the rights of the Bulgarian Church that were guaranteed in the Treaty of Berlin, Stambuloff placed the Russian Foreign Office in the dilemma of either offending the Servians and Greeks by supporting the claims, or of renouncing the rôle of protectress of the Christians in Turkey and forfeiting the confidence of the Russian adherents in Bulgaria by opposing their demands. The Russian minister, relying on the habitual inactivity of the Sultan's Government, at first thought it safe to remain silent, and the Austrian and British ministers seized the opportunity to urge strongly the granting of the legitimate claims for religious equality brought forward in behalf of the Macedonian Bulgars. The Porte had prepared the way for the reopening of the Macedonian question some time before by yielding to the pressure of the Greek patriarchate and the influence of the Russian ambassador in abruptly revoking the permission given to a Bulgarian bishop to consecrate churches and ordain priests. Fearful of losing its influence over the Servians, who clamorously appealed to the Czar to prevent the indignity of allowing a Bulgarian exarch to exercise ecclesiastical jurisdiction in Old Serbia, the Russian Government was at last driven to exert pressure on the Porte. Its opposition was intimated covertly in the customary way of demanding the payment of the arrears of the war indemnity. The note was made more emphatic than previous ones by a threat of taking steps to enforce payment. The Russian ambassador no longer received the helpful support that German

diplomacy always extended in Bulgarian affairs when Prince Bismarck was in office. On July 23 M. Nelidoff presented a note characterizing the Bulgarian demands as manoeuvres to strengthen the tottering throne of Ferdinand of Coburg, whose rule is illegal, and saying that the Porte's condescension to the Bulgarian Government was an unfriendly act toward Russia which might lead to serious consequences. This was after the Porte had announced its decision regarding the investiture of Bulgarian bishops for Macedonia. Three were appointed to administer dioceses in which a large majority of the inhabitants are Bulgars. The Greek Government took no active part in opposing the creation of the bishops, and the Greek patriarchate, made cautious by Stambuloff's threat to expel the Greek bishops from Bulgaria, only stipulated that they should be officially designated as schismatics, and that the Bulgarian popes should not be permitted to wear the same vestments as the Greek clergy. The Russian ambassador, after presenting M. de Giers's strong protest against any concessions to the illegitimate Bulgarian Government, intimated that favors shown to the Bulgarian people would not displease the Czar, and accordingly the *iradé* creating the Macedonian bishoprics was not issued till a formal request came from the Bulgarian exarch.

At the same time that his ministers were urging his claims for recognition, Prince Ferdinand's Orleanist relatives, who desire to keep well with the Czar, were employing vainly all their powers of persuasion to induce him to abdicate. Before the question of the bishops had been settled, Stambuloff presented to the Porte a project for a military alliance between Turkey and Bulgaria on the basis of the demands contained in his note. The terms of the treaty he offered were outlined in the following definite proposals: (1) The Porte should sanction the election of Prince Ferdinand, and bind itself to protect the independence of Bulgaria by all the means, diplomatic and military; (2) Bulgarian dioceses should be established in all the Macedonian districts where the Bulgarian element forms an incontestable majority, that is, in the districts of Veless, Samakovo, Skoplia, and Ochrida; (3) Bulgaria should undertake, in case of an attack on the frontiers of the Ottoman Empire, to place at the disposal of the Sultan a force of at least 60,000 men, to be armed, equipped, and maintained at the expense of the Bulgarian Government. Notwithstanding the protests of the Russian and Servian governments the Sultan granted *berats* for the creation of Bulgarian bishops for the districts of Skoplia or Ueskub, Ochrida, and Koeprulu. The ethnographical constituents of the population of Macedonia, according to statistics collected through the French consular agencies and free from political bias, are as follow: Bulgars, 550,000; Greeks, 300,000; Arnauts or Albanian Mussulmans, 110,000; Bulgarian Mussulmans, 60,000; Ottoman Turks, 180,000; Greek Mussulmans, 15,000; Albanian Christians, 30,000; Jews, Wallachians, and gypsies, 80,000; Armenians, 10,000; European foreigners, 5,000. The claims of Servia to Macedonia are based on the historical ground that at one time it formed part of the Servian Empire, and on the fact that in language and customs the Macedonian Slavs approach

more nearly to the Servian than to the Bulgarian type. Ethnologists say that there is only a small trace of Servian blood in the Macedonians, and they themselves have from time immemorial called themselves Bulgarians, and have taken an active part in the ecclesiastical and educational struggle against Hellenism, and many of them in the Bulgarian contest for political independence. Mass meetings were held in Belgrade for the purpose of calling on the Czar, the Sultan, and the Greek patriarch to preserve from the Bulgarians the only territory left for Servian expansion since Austria frustrated their aspirations for a Great Servia in the region to which the Serbs have a valid ethnological claim.

BURTON, Sir RICHARD FRANCIS, British explorer and author, born in Tuam, Galway, Ireland, March 19, 1821; died in Trieste, Austria, Oct. 20, 1890. His father, Lieut.-Col. Joseph Netterville Burton, was a retired officer of the British army, and made his home in France, but sent his son to England to be educated. The son attended a private school in Richmond, and entered Trinity College, Oxford, with the understanding that he was to prepare for the Church. But the routine of college life and study seemed intolerable. He found it hard to learn by regulation methods, but developed a passionate love for languages, of which he finally acquired twenty-nine, not counting dialects. He had his own way of learning even the Latin and Greek. Scientific studies, especially those connected with travel and exploration, were also of intense interest to him; and such was his desire for active life that before his course was finished he had persuaded his father to let him enter the army in British India. A commission was obtained for him, and in 1842 he reached India. Sir Charles Napier, who soon discerned his talents and peculiar aptitude for Oriental service, appointed him upon his staff. He passed an examination in eight Oriental languages, among which were Hindoostanee, Persian, and Arabic; and soon became an expert horseman and shot, and so fine a swordsman as to receive from France the honor of a *brevet de pointe*. He published, in 1853, a system of bayonet exercise. He was connected for nineteen years with the Bombay army, during eight of which he was in active military service. The other eleven were devoted to the Oriental scientific research for which nature had marvelously fitted him. He acquired such mastery of native tongues and dialects that, with his Arab face and wonderful power of adapting himself to new manners and customs, he could pass unchallenged and unsuspected among any people whose dress he chose to assume. In 1853 he made an expedition to Mecca and Medina. Besides gathering material for a valuable and interesting volume, he was enabled to suggest to the English War Department measures of protection for the coasts of the Red Sea and the Gulf of Aden, which, if taken, would have prevented a massacre at Jeddah and an increase of the slave trade. His next expedition, 1855, was to Harar, in Moslem Abyssinia, which he explored thoroughly, going thence to Somali Land, in east Africa. He commanded an expedition in which was Capt. J. H. Speke, then an independent explorer, who was afterward Burton's associate, and Lieuten-

ants Herne and Stroyan. They were attacked by natives, and Burton and Speke were badly wounded and Herne was killed. On his recovery Burton was ordered to the Crimea, where the war between Russia and the European allies was raging. He was chief of staff to Gen. Beaton and principal organizer of the irregular cavalry. At Lord Palmerston's order he was about to raise a large body of Kurdish horsemen when peace was proclaimed.

He then returned to his project of making a more extended exploration of Central Africa. He organized a party in 1856, and set out in company with Capt. Speke. In February, 1858, he penetrated as far as Ujiji, and discovered Lake Tanganyika, at the very point where, in 1877, Stanley found Livingstone. It was Burton's work in what was then the "Dark Continent" indeed, that opened the way for the discoveries of the great lakes Albert and Victoria Nyanza. The expedition was absent three years, and its results are embodied in volumes published after the return. In 1860 Burton came to the United States, visiting, during a journey of 25,000 miles, Salt Lake City and California. In 1861 he severed his connection with the British army, and Earl Russell sent him as consul to Fernando Po. Among the expeditions fitted out there was one in which he sailed up the Congo, taking canoes at Boma, landing at Banza Nokki, and marching up to Nkulu, where lack of means to pay the native chiefs for guides compelled him to give up further progress. But he had discovered the great cataracts, or rapids, called the Yellala. He also climbed the Elephant mountains, and explored the chain of lagoons between the Lagos and Volta rivers. All of which he afterward described minutely by word and picture; and he paved the way for the present Congo Free State, the future site of which he then described. He also explored thoroughly from Bathurst, on the Gambia, to San Paulo de Loanda, in Angola; visited Abbeokuta, and ascended the Cameroon mountains. He went among the cannibal Mepangwe, the Taus of Du Chaillu, and to Benin City,

which had been unvisited by white men since the explorer Belzoni lost his life there in 1823. His next mission was the dangerous one of visiting, at the instance of the Government, Gelele, King of Dahomey, to persuade him to abandon his "customs." Capt. Burton was then transferred to the department of San Paulo, Brazil, where he remained four years. He visited the diamond and gold mines of Minas-Geraes, went down 1,500 miles of San Francisco river, visited the Argentine Republic, and traversed the Paraguay and La Plata rivers, to report to the Foreign Office the state of the Paraguayan war. Crossing the pampas and the Andes mountains, he visited Chili and Peru. He returned to London by way of the Straits of Magellan, Buenos Ayres, and Rio de Janeiro to find, on reaching home, that he had been appointed consul at Damascus. This post, so congenial to him from his familiarity with and fondness for Oriental speech and people, he was permitted to hold but three years, as his sympathy with the Arabs

and native Syrians roused the hatred of Turkish officials and Greek bishops, and Damascus was reduced to a vice-consulate, and Burton was recalled in 1871. But in the mean time he had visited the Libanus, the Tufûl el Safâ, the Anti-Libanus, the northern Libanus, and the Alâh.

An expedition to Iceland occupied the next year, after returning from which he was ap-



SIR RICHARD FRANCIS BURTON DISGUISED AS A SHEIK.

pointed consul at Trieste, which post he held until his death. In 1876 he visited Midian, and a year later he organized a company for its more thorough exploration. His caravan consisted of 8 Europeans, 3 Egyptian officers of the staff and 2 of the line, 25 soldiers and 30 miners, 10 mules, and 100 camels. After four months of hard travel and search they returned with the loss of but one man, a soldier who died of fever, bringing 25 tons of geological specimens, 6 cases of colorado and negro ore, and 5 cases of eth-

nological and anthropological collections; among which were Midianite coins, inscriptions in Nabathean and Cufic, remains in worked stones, fragments of smelted metals, glass, and pottery. He also brought more than 200 sketches in oil and water color, photographs of the chief ruins, including the catacombs and a classical temple, apparently of Greek art; and maps of the whole country, including 32 ruined cities, some of whose names could be restored by consulting Strabo and Ptolemy. In 1882, in connection with Commander Verney Lovett Cameron, Burton explored the country back of the Gold Coast.

In 1861 Capt. Burton had married Miss Isabel Arundel, a cousin of Lord Arundel, of Wardour, a lady who added to graces of person and manner the spirit and courage of an explorer, and who had written several books of travel. She accompanied her husband to Fernando Po, and on many of his journeys, and was at all times his enthusiastic helper. Among her later literary achievements was the preparation of an expurgated edition, in six volumes, of her husband's full translation of the "Arabian Nights' Entertainments." She made her home in Trieste so attractive that her receptions were always crowded, despite the fact that the climb to reach it was even beyond the frequent European limit. When asked why he lived so far from the ground, Capt. Burton replied, "Because I couldn't live any farther. If houses were built with another story, I should occupy it. I must have air and sky." His funeral, at Trieste, was conducted according to Roman Catholic rites, and attended with much ceremony; the Governor, the military, naval, and civil authorities, foreign consuls, and municipal officers attending in state. His body was carried to England.

A "Life of Sir Richard Burton" was written

by Francis Hitchman (2 vols., London, 1887). His published works include: "Goa and the Blue Mountains" (London, 1850); "Sindh, or the Unhappy Valley" (2 vols., 1852); "History of Sindh," "Falconry in the Valley of the Indus," "Complete System of Bayonet Exercise" (1853); "A Pilgrimage to El-Medina and Mecca" (3 vols., 1856); "First Footsteps in East Africa, or an Exploration of Harar" (1856); "The Lake Regions of Central Africa," "Abbeokuta, or an Exploration of the Cameroon Mountains" (1863); "A Narrative of a Mission to the King of Dahomey" (1864); "Explorations of the Highlands of Brazil, with a full Account of the Gold and Diamond Mines"; "Canoeing down 1,500 Miles of the Great River São Francisco, from Sabará to the Sea" (1868); "Vikram and the Vampire, or Tales of Hindu Devilry" (1869); "Zanzibar, City, Island, and Coast" (2 vols., 1872); in collaboration with Charles F. Tyrwhitt Drake, "Unexplored Syria; Visits to the Libanus, the Tuld el Safá, the Anti-Libanus, the Northern Libanus, and the Aláh"; "Two Trips to Gorilla Land and the Cataracts of the Congo" (2 vols., 1875); "Ultima Thule, or a Summer in Iceland" (2 vols., 1875); "Etruscan Bologna, a Study" (1876); "Sind revisited, with Notices of the Anglo-Indian Army; Railroads of the Past, Present, and Future" (2 vols., 1877); "The Gold Mines of Midian and the Ruined Midianite Cities"; "A Fortnight's Tour in Northwestern Arabia" (1878); a translation of "Camoens's Lusíadas" (1880); "Camoens, his Life and his Lusíadas, a Commentary" (2 vols., 1881); "A Glance at the Passion Play" (1881); "To the Gold Coast for Gold, a Personal Narrative," conjointly with Verney Lovett Cameron (1882); and a new and complete translation of the "Arabian Nights."

C

CALIFORNIA, a Pacific coast State, admitted to the Union Sept. 9, 1850; area, 158,360 square miles. The population, according to each decennial census since admission, was 92,597 in 1850; 379,994 in 1860; 560,247 in 1870; 864,694 in 1880; and 1,204,002 in 1899. Capital, Sacramento.

Government.—The following were the State officers during the year: Governor, R. W. Waterman, Republican; Lieutenant-Governor *ex-officio*, Stephen M. White, President *pro tem* of the Senate; Secretary of State, W. C. Hendricks; Comptroller, John P. Dunn; Treasurer, Adam Herold; Attorney-General, George A. Johnson; Surveyor-General, Theodore Reichert; Superintendent of Public Instruction, Ira G. Hottel; State Engineer, William H. Hall; Railroad Commissioners, A. Abbott, P. J. White, J. W. Rex; Insurance Commissioner, J. N. E. Wilson; Chief Justice of the Supreme Court, W. H. Beatty; Associate Justices, J. D. Thornton, J. R. Sharpstein, T. B. McFarland, A. Van R. Patterson, John D. Works, Charles N. Fox.

Valuations.—The assessed valuation of the State for 1890 will be about \$1,150,000,000, an

increase over the figures for 1880. The State Board of Equalization has fixed the State tax rate for 1890 at 58 cents on each \$100 of this sum. For 1889 the rate was 72-2 cents.

County Debts.—There are 7 counties in the State without debt; Amador County owes between \$1,000 and \$5,000; Del Norte County, between \$5,000 and \$10,000; Sutter, Contra Costa, Santa Barbara, Ventura, San Bernardino, and Nevada Counties, between \$10,000 and \$20,000; Alpine, Kern, Mono, Placer, Sierra, and Stanislaus, between \$20,000 and \$35,000; Lake and San Benito, between \$35,000 and \$50,000; Butte, Inyo, Phumas, Siskiyou, Solano, Trinity, and Yolo, between \$50,000 and \$75,000; Calaveras, Fresno, San Mateo, and Tulare, between \$75,000 and \$100,000; Alameda, El Dorado, Humboldt, Marin, Mendocino, Merced, Monterey, Napa, San Luis Obispo, San Joaquin, Santa Cruz, Shasta, Tehama, and Yuba, between \$100,000 and \$250,000; San Diego, Santa Clara, and Sonoma, between \$250,000 and 500,000; Sacramento, between \$500,000 and \$750,000; and Los Angeles, over \$750,000. The total county debt is \$5,007,450, of which \$5,320,051 is a bonded debt and \$287,-

399 a floating debt. There has been a decrease of the total county debt in the last decade amounting to \$1,705,039.

Population.—The national census returns of this year, showing the population of the State by counties, are compared with similar returns for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Alameda.....	62,976	98,516	35,540
Alpine.....	589	667	128
Amador.....	11,884	10,915	* 1,069
Butte.....	18,721	17,904	* 817
Calaveras.....	9,094	8,871	* 223
Colusa.....	13,118	14,614	1,496
Contra Costa.....	12,223	18,508	978
Del Norte.....	2,584	2,570	* 14
El Dorado.....	10,688	9,206	* 1,477
Fresno.....	9,478	81,877	22,899
Humboldt.....	15,512	28,424	7,912
Inyo.....	2,928	3,544	616
Kern.....	5,601	9,778	4,177
Lake.....	6,296	7,108	807
Lassen.....	3,840	4,144	304
Los Angeles.....	33,381	101,410	68,029
Marin.....	11,394	12,648	1,319
Mariposa.....	4,389	3,778	* 566
Mendocino.....	12,800	17,578	4,778
Merced.....	5,656	5,062	2,406
Modoc.....	4,399	4,594	587
Mono.....	7,499	1,962	* 5,587
Monterey.....	11,892	18,598	7,291
Napa.....	18,285	18,804	8,069
Nevada.....	20,323	17,873	* 3,448
Orange.....	9,292	18,561	18,561
Placer.....	14,282	15,059	857
Plumas.....	6,180	4,848	* 1,382
Sacramento.....	34,390	40,224	5,834
San Benito.....	5,584	6,390	806
San Bernardino.....	7,786	25,486	17,700
San Diego.....	8,618	84,878	26,260
San Francisco.....	293,959	297,390	64,081
San Joaquin.....	34,849	28,576	4,227
San Luis Obispo.....	9,142	16,036	6,918
San Mateo.....	8,699	10,054	1,355
Santa Barbara.....	9,518	10,780	6,217
Santa Clara.....	25,089	47,805	12,856
Santa Cruz.....	12,802	19,341	6,489
Shasta.....	9,492	12,109	2,617
Sierra.....	6,623	5,047	* 1,576
Siskiyou.....	8,610	12,118	3,508
Solano.....	18,475	20,485	2,010
Sonoma.....	23,926	32,651	6,735
Stanislaus.....	8,751	9,992	1,241
Sutter.....	5,159	5,465	306
Tehama.....	9,301	9,878	577
Trinity.....	4,999	8,655	* 1,314
Tulare.....	11,281	24,554	13,273
Tuolumne.....	7,845	6,028	* 1,820
Ventura.....	5,078	10,066	4,928
Yolo.....	11,772	12,684	912
Yuba.....	11,284	9,566	* 1,728
- Total.....	864,694	1,304,002	339,308

* Decrease.

The population of the city of San Francisco is 297,990, an increase of 64,031 in ten years. The population of San José is 18,027, an increase of 5,460; of Oakland, 48,590, an increase of 14,035; of Sacramento, 26,272, an increase of 4,852; of Stockton, 14,376, an increase of 4,094; of Los Angeles, 50,394, an increase of 32,911; of San Diego, 16,153, an increase of 13,516.

Mining.—According to the annual report of Wells, Fargo, & Co. for 1889, the product of precious metals for that year in the State was \$12,842,757, of which \$10,329,044 was in the form of gold dust and bullion; \$664,476, silver bullion; and \$1,849,237, ores and base bullion. During 1889 2,024,496 pounds of quicksilver were produced in California, being notably less than the usual yield. There are 11 productive mines in

the State, 3 in Lake County having 12 furnaces, 4 in Napa County having 12 furnaces, and 1 each in Merced, San Benito, Santa Clara, and Sonoma Counties, having together 12 furnaces. Santa Clara, Siskiyou, and Trinity Counties each have an unproductive mine. The productive mines and active furnaces in 1889 employed 937 persons, of whom 416 were engaged on surface work and 521 were employed underground.

Manufactures.—During the past few years there has been a rapid decline in the wool manufacturing industry of the State. In 1888 the Santa Rosa woolen mills were closed, and the Capital Mills at Sacramento were burned and have not been rebuilt. In 1889 the Stockton mills and the San José mills stopped. Finally the closing, late in 1889, of the Pioneer Woolen Mills, the oldest and largest concern of the kind on the Pacific coast, marked the end of the manufacture of woolsens on a large scale in the State. In March of this year only 6 mills were in operation with 28 carding machines.

There is but one cotton factory on the Pacific coast, the East Oakland factory, which was established in 1885, and has prospered. The eight buildings are of brick and one story high. The production in 1886 was \$128,908.25, while in three years afterward it amounted to \$286,955.18.

Other Industries.—It is estimated that about 3,900,000 acres in the State were devoted to wheat growing in 1889, and that the crop was between 1,300,000 and 1,400,000 tons. In 1888, an unfavorable season, the crop was about 900,000 tons. The wool product for 1888 is reported to be 32,569,972 pounds, and for 1889 34,008,370 pounds. There has been a gradual diminution of the total product of this industry during the past decade. The product of the dried-fruit industries, and of the bee-raising industry, for 1889, is estimated as follows:

	Pounds.
Almonds.....	400,000
Apples, sun-dried.....	100,000
Apples, evaporated.....	400,000
Apricots, bleached and evaporated.....	2,000,000
Bee-wax.....	80,000
Figs, sun-dried.....	100,000
French prunes.....	15,000,000
German prunes.....	200,000
Grapes, sun-dried.....	2,000,000
Honey, extracted.....	2,000,000
Honey, comb.....	200,000
Nectarines, bleached.....	200,000
Peaches, bleached, unpeeled.....	3,000,000
Peaches, bleached, peeled.....	200,000
Peaches, sun-dried.....	500,000
Pears, sun-dried.....	50,000
Plums, sun-dried.....	800,000
Raisins, twenty-pound boxes.....	900,000
Raisins, in bags.....	2,000,000
Walnuts.....	1,500,000

Half of the total raisin product comes from the Fresno district. The Riverside and San Bernardino districts produced 260,000 boxes, the San Diego district 60,000 boxes, the Los Angeles district 30,000 boxes, and the northern counties 100,000 boxes.

The vintage of 1889 is estimated at 14,750,000 gallons, distributed among the counties as follows: Napa, 3,000,000; Sonoma, 1,750,000; Alameda, 1,000,000; Santa Clara and Santa Cruz, 2,500,000; Sacramento and north, 2,000,000; San Joaquin, 250,000; Fresno, 1,250,000; Los Angeles and south, 2,000,000; other counties, 1,000,000; total, 14,750,000. From 800,000 to 1,000,-

000 gallons of brandy were made, consuming 4,000,000 or 5,000,000 gallons of wine, and leaving 10,000,000 gallons of wine as the total output for the year.

The production of hops on the Pacific coast in 1888 and 1889 was as follows:

STATES.	1889.		1888.	
	Acres.	Bales.	Acres.	Bales.
California.....	4,750	35,000	4,600	35,000
Oregon.....	2,150	15,000	2,000	15,000
Washington.....	4,000	40,000	8,750	41,200
British Columbia.....	80	100	30	100
Total.....	10,930	90,100	10,380	91,300

Insurance.—The State Insurance Commissioner makes the following report for 1889: The amount of fire insurance written was \$352,179,523; premiums, \$6,158,754.64; losses paid, \$2,572,001.93; ratio of losses to premiums, 41.7. The amount of marine insurance written was \$141,015,459; premiums, \$1,602,434.12; losses paid, \$926,811.88; ratio of losses to premiums, 57.8. The number of new life-insurance policies written by life-insurance companies in the State was 5,105, amounting to \$22,094,645, on which premiums amounting to \$979,544.16 were paid. The policies in force Dec. 31 amounted to \$83,278,827. The losses and endowments paid amounted to \$1,545,497.51. Accident, fidelity, steam-boiler, and plate-glass insurance policies in force Dec. 31 amounted to \$39,378,233. The losses paid amounted to \$63,545.06.

Irrigation.—The formation of irrigation districts under the provisions of the Wright law progressed encouragingly during the year. Early in September a meeting of the officers of all the districts in the State met at Tulare for the purpose of organizing a State association of district officers. Fourteen districts were represented. It was shown that 12 districts had issued bonds aggregating \$5,960,000 in value, and that nearly \$2,000,000 worth had been sold in the State, in the East, and abroad. The total number of acres in these 12 districts is 1,050,244, and the average bonded indebtedness per acre \$5.62.

The highest indebtedness is that of the Escondido district, \$35.12 per acre, and the lowest that of the Brown's valley district, \$2.54 per acre.

Between 25 and 30 districts are in various stages of organization, under the law, from the Anaheim and Alta (old Seventy-six Canal) districts, which now have water in their lands, to those whose organization is only in preliminary stages. The total area included in these districts is placed at 2,000,000 acres, ranging in individual district area from 15,000 to 300,000 acres.

Admission Anniversary.—The fortieth anniversary of the admission of California to the Union was celebrated throughout the State on Sept. 6, 8, and 9, the last day being made a legal holiday by proclamation of the Governor pursuant to an act of the last Legislature. In San Francisco, where the exercises were in charge of the societies of California Pioneers, Native Sons, and Native Daughters, an imposing celebration took place, which attracted people to the city from all parts of the State. On the evening of the sixth there was a torchlight parade, followed by a pyrotechnic display. The second day was

devoted to games, races, and other outdoor sports, followed by a grand concert in the evening. On the third day there was an imposing parade, a public meeting (at which addresses were made by the Governor, the mayor, and others), and a public reception by the societies. Buildings throughout the city were decorated.

Decisions.—The validity of the act of 1889 creating a board of Supreme Court commissioners to assist the court in disposing of its calendar was called in question early this year, but by a decision rendered in February the court fully sustained the law. It says:

The Supreme Court in appointing the commissioners in February, 1889, by necessary implication held the act to be a valid law. Under a similar act approved in 1885 the Supreme Court appointed a commission for a like purpose with like powers. That commission and the present one have, unchallenged, assisted the court in the examination and preparation for decision of over 1,000 cases. These judgments would not have been valid if the commission was not a lawfully constituted body. To reverse a construction which must of necessity have been given to these statutes before or at the time of the appointment of the commission, and which has been acquiesced in for so long a time, and thereby produce such results as would follow such a reversal, is a thing that ought not to be done by any court unless there is found the most grave necessity for doing it.

In the case of the State vs. Central Pacific Railroad Company, decided by the Supreme Court on March 8, the State was again defeated in its attempt to collect taxes from the railroads. The suit was brought to compel payment of the taxes assessed for 1886, and the chief point at issue was the validity of sections 3665 to 3670 of the political code of the State, which provided a special method for assessing, levying, and collecting taxes upon railroads running through more than one county. It was contended by the defendant corporation that these sections were in conflict with Article IV, section 25 of the State Constitution, which forbids special laws "for the assessment and collection of taxes," while the State claimed that they were in exact accordance with Article X, section 13 of the same Constitution, which provides as follows: "All property, except as hereinafter provided, shall be assessed in the county, city, county and city, town, township, or district in which it is situated, in the manner prescribed by law. The franchises, roadway, roadbed, rails, and rolling stock of all railroads operated in more than one county in this State shall be assessed by the State Board of Equalization at their actual value, and the same shall be apportioned to the counties, etc., in which such railroads are located, in proportion to the number of miles of railway laid in such county," etc. The court were of opinion that this section related only to the method of assessment, and not to the levy and collection of taxes, and that the provisions of the Political Code (section 3665 to 3670), so far as they prescribe a method for levying and collecting the tax, were not enacted in pursuance of this section, and were invalid because they prescribed a special procedure for levying and collecting taxes, not from all railroads (which might be considered a general law), but from a special class of railroads, those running through more than one county, and because they were; therefore, con-

trary to Article IV, section 25, above mentioned. The law being adjudged unconstitutional, the tax levied under it was void. The next Legislature will be obliged to frame a new law.

Political.—On April 9 a State convention of the Prohibition party met at San Francisco and nominated the following State ticket: For Governor, Gen John Bidwell; for Lieutenant-Governor, A. M. Hough; for Secretary of State, F. E. Kellogg; for Treasurer, Henry French; for Comptroller, M. C. Winchester; for Attorney-General, Chauncey H. Dunn; for Surveyor-General, E. M. Chase; for Superintendent of Public Instruction, Miss S. M. Severance; for Clerk of the Supreme Court, J. T. Price; for Chief Justice of the Supreme Court, Robert Thompson; for Associate Justice (unexpired term), S. B. Brown; for Associate Justices (full term), W. G. Murphy and L. W. Elliott. The usual resolutions were adopted. On Aug. 4 the adherents of the American party met in State convention in the same city. This party was founded in California largely through the efforts of Hon. P. D. Wigginton. At a meeting in Philadelphia in September, 1887, it became a national organization, and in 1888 it nominated a presidential ticket, which received 1,591 votes in this State, but found comparatively little support elsewhere. Except in California, it has at present no active organization. The convention decided to make a partial union with the Prohibitionists by adopting the candidates of the latter for Governor, Comptroller, and Attorney-General. For Lieutenant-Governor, the convention nominated Benjamin Morgan; for Secretary of State, William S. Lyon; for Treasurer, Guy E. Grosse; for Surveyor-General, William L. Dixon; Superintendent of Public Instruction, Daniel Lambert; and for Clerk of the Supreme Court, W. A. Beatty. The nomination of justices of the Supreme Court was referred to the State Central Committee, which afterward adopted the Republican nominees for these offices. The following principles were adopted as the party platform:

That the naturalization laws of the United States should be unconditionally repealed; that alien non-residents should not be allowed to acquire real estate; that the Constitution should be amended prohibiting non-residents transmitting real property at will; that the National and State laws be amended so that no persons except native-born citizens shall be permitted to enter or purchase any public land from the State or National Government; that the ownership of land by resident aliens be limited in area and value; that the State shall establish free technical schools wherein American boys and girls may be taught trades; favoring a uniform reduction of taxes on the real estate of the cultivators of the soil and the imposing of advanced rates on property coming under the head of luxuries; that a system be maintained excluding cheap competitive foreign labor productions and laborers; that Congress pass an immigration law whereby a *per capita* tax shall be levied on all immigrants, and that all persons not in sympathy with the Government be prohibited from immigrating to these United States; that after 1893 no person shall be allowed to exercise the right of suffrage unless he can speak, read, and write the English language intelligently; that the saloon, being the great agency of corruption in politics, should be restricted to the narrowest possible limit; favoring an election law embodying the features and principles of the Australian ballot system; favoring the enactment of a law by which any question of any general import, upon the petition to the

Governor of 3 per cent. of the total vote cast at the last previous election, shall be submitted to the electors at the next general election for their approval or rejection; that we are heartily in favor of the bill introduced in the United States Senate by the Hon. Leonard Stanford, providing for loaning the money of the Government to agriculturists at low rate of interest, taking as security therefor the land of the borrower.

The candidate for Supreme Court clerk withdrew before the election, and the State committee adopted the Democratic candidate.

The Republican State Convention was held at Sacramento on Aug. 12. On the first ballot H. H. Markham, of Los Angeles, received the nomination for Governor, his chief competitor being Congressman W. W. Morrow. The other nominees were as follow: For Lieutenant-Governor, J. B. Reddick; for Secretary of State, Edward G. Waite; for Treasurer, J. R. McDonald; for Comptroller, Edwin P. Colgan; for Attorney-General, W. H. Hart; for Surveyor-General, Theodore Reichert; for Superintendent of Public Instruction, James W. Anderson; for Clerk of the Supreme Court, L. H. Brown; for Chief Justice of the Supreme Court, W. H. Beatty; for Associate Justices, Ralph C. Harrison and C. H. Garoutte, both for the full term, and J. J. De Haven for the unexpired term. The platform favors rigid exclusion of the Chinese, Federal appropriations to widen and deepen the channels of the Sacramento and San Joaquin rivers, and the enactment of stringent anti-trust laws. The nominees of the convention were pledged to support the enforcement of the eight-hour law. The action of the last Legislature, "which, under the control of the Democratic party, appropriated \$12,534,000, and for the purpose of raising that sum increased the rate of taxation to the unprecedented rate of 72 cents on each \$100 of property," was denounced, and the party pledged itself to make only such appropriations as would keep the annual tax rate within 50 cents on each \$100. A State board of arbitration for the settlement of labor disputes was favored, and legislation to extend and develop irrigation was promised.

The Democrats met in State convention at San José on Aug. 19, and nominated the following ticket: For Governor, Edward B. Pond, Mayor of San Francisco; for Lieutenant-Governor, R. F. Del Valle; for Attorney-General, Walker C. Graves; for Surveyor-General, Stanley C. Boom; for Superintendent of Public Instruction, Henry C. Hall; for Chief Justice of the Supreme Court, John A. Stanley; for Associate Justices, James V. Coffey and George H. Smith for the full term, and Jackson Hatch for the unexpired term. Secretary of State Hendricks, Comptroller Dunn, Treasurer Herold, and Clerk of the Supreme Court Spencer were renominated. The platform favors free coinage of silver, anti-trust legislation, the election of United States Senators by the people, the election of State printer by the people, an eight-hour day for labor, the improvement of the chief water-ways of the State, and the encouragement of wine growing by law. The party declared its opposition to any scheme for dividing the State, denounced the management of the San Quentin prison as extravagant, pledged itself to secure an Australian ballot law, and declared an annual tax

rate of 45 cents on each \$100 to be sufficient to meet reasonable State expenses. The platform also contains the following declarations:

We call attention to the hypocrisy of the late Republican State Convention in attempting to place upon the Democratic majority in the Legislature the entire responsibility of the appropriations made during the last session. The Republican members of the Legislature voted in favor of the appropriations which were made the subject of criticism, and in every instance the appropriations so made were approved by a Republican Executive, whose administration his party convention had not the manliness to indorse nor the courage to condemn.

Local issues were not conspicuous in the canvass. The leading parties were both pledged to secure a reduction of State expenses and State taxation, while each charged the other with responsibility for the extravagant appropriations of the last General Assembly. At the election on Nov. 4 the entire Republican ticket was elected by pluralities varying from 5,000 to 15,000. The plurality of Markham for Governor was about 10,000. For Railroad Commissioners the Republicans elected William Beckman in the First District over Archibald Yell, Democrat; J. M. Litchfield in the Second District over Charles H. Haswell, Jr., Democrat; and James W. Rea in the Third district over Lawrence Archer, Democrat. All the Republican candidates for the State Board of Equalization were elected. The next General Assembly, nearly all of whose members were chosen at this time, will be composed of the following members, according to unofficial returns: Senate—Republicans 28, Democrats 12; Assembly—Republicans 59, Democrats 21. On the constitutional amendment, submitted to the people at this time, permitting cities and towns having fewer than 100,000, and more than 3,500 inhabitants to frame their own charters, subject to the approval of them as a whole by the General Assembly, the vote was largely in favor of its adoption. For Members of Congress Thomas J. Geary, Democrat, was chosen in the First District over A. Barham, Republican; A. Caminetti, Democrat, in the Second District over George Blanchard, Republican; Joseph McKenna, Republican, in the Third District over John P. Irish, Democrat; John T. Cutting, Republican, in the Fourth District over Robert Ferral, Democrat; E. F. Loud, Republican, in the Fifth District over Thomas J. Clunie, Democrat; and W. W. Bowers, Republican, in the Sixth District over W. J. Curtis, Democrat. The delegation will therefore be composed of 4 Republicans and 2 Democrats. In the 1st and 2d districts the contest was determined by a few hundred votes.

The municipal election in San Francisco, held also on Nov. 4, resulted in the success of nearly all the candidates on the Republican ticket, George H. Sanderson being chosen Mayor over William F. Goad, Democrat, and C. C. O'Donnell, Independent.

CANADA, DOMINION OF. See DOMINION OF CANADA.

CAPE COLONY AND SOUTH AFRICA. The Cape of Good Hope is a British colony in South Africa possessing responsible government. The Governor is Sir Henry Brougham Loch, appointed in 1889.

Area and Population.—The area of the colony, including the Transkeian territories and Walfish Bay, is 217,895 square miles. The population in 1888 was estimated officially at 1,029,456 in Cape Colony proper and 399,273 in Transkei, East Griqualand and Tembuland, making a total of 1,428,729, of whom not more than 400,000 are whites. Cape Town has about 70,000 inhabitants. The number of adults that entered the colony in 1888 was 6,029; the number of departures, 4,881. The majority of the population, both white and black, are adherents of the Dutch Reformed Church. Most of the European population are descendants of Dutch, French, and German settlers who emigrated from Europe in the seventeenth century to enjoy religious liberty. Education is not compulsory, and not above one third of the white inhabitants can read or write. The Government expenditure on the elementary schools for 1889-'90 amounts to £120,000 and the local expenditure nearly as much. There were 87,750 pupils enrolled in the 1,399 aided schools in 1888; the average attendance was 46,619. About 70 per cent. of the European children are now on the school rolls.

Commerce.—The total value of imports, including specie, in 1888 was £7,013,885; imports of merchandise, £5,458,774; total exports, £8,964,449; exports of colonial products, £8,732,601. The export of diamonds was valued at £4,022,379; wool, £2,181,510; copper ore, £856,803; hides and skins, £373,827; ostrich feathers, £347,792; Angora hair, £305,362; grain, £19,599; wine, £19,477. The exports of diamonds from the discovery of the Kimberley mines, in 1867, till 1886 amounted to \$35,766,991. The chief imports in 1888 were textile manufactures and apparel of the value of £2,305,007 and articles of food and drink of the value of £1,142,127. The product of wine in 1889 was 5,646,426 gallons; of brandy and spirits, 1,211,673 gallons.

Navigation.—The number of vessels entered from foreign countries in 1888 was 702, of 1,067,111 tons, including 309 British vessels, of 830,077 tons; the number cleared was 647, of 1,013,566 tons. The coastwise movement was 1,336 vessels entered, of 1,988,655 tons, and 1,348 cleared, of 2,074,091 tons. The colony possesses 34 vessels, of 3,543 tons.

Railroads.—The railroads, which belong to the Government, had a total length of 1,599 miles at the end of 1888. They were built at a cost of £14,214,398. The number of passengers carried in 1888 was 2,686,113; tons of freight, 415,171. There were besides 177 miles of private lines.

The Post-Office and Telegraphs.—The number of letters sent through the post-office in 1888 was 8,083,334; of newspapers, 4,112,870. The telegraph lines had a total length of 4,339 miles at the end of 1888. The receipts for the year were £70,244 and the expenses £49,037.

Finances.—The revenue from taxation for the year ending June 30, 1888, was £1,458,608; from public services, £1,685,024; from Government property, £237,800; from fines, etc., £25,250; from loans, £926; total, £3,427,609. The expenditure on account of loans was £1,088,630; on account of railways, £716,309; for defense, £138,904; for police, £187,730; for the civil establishment, £122,881; under act of Parliament, £36,968; total, £3,285,512. The unaudited rev-

enue for 1888-'89 was £3,837,221, exclusive of loans. The estimates for 1889-'90 make the revenue £3,889,400, and the expenditure \$3,884,021.

The debt on Jan. 1, 1889, amounted to £20,971,291, not including £1,323,833 of guaranteed loans. New obligations incurred for the completion of the railroad network increased the debt to nearly £26,000,000 in July, 1890. The Colonial Treasurer's estimate of revenue for the ensuing year was £4,260,000.

Change of Government.—The speech with which the Cape Parliament was opened by Sir H. Loch on May 29 indicated the policy of the Government as one of railroad extension, providing for internal development as well as external trade interests. The main features of Sir Gordon Sprigg's railroad scheme were transverse connections between the isolated north and south railroad systems. The western line, from Cape Town to Kimberley, is joined at Aar Junction by the midland, running from Port Elizabeth, but has no connection with the eastern railroad, which runs from East London to Aliwal north. In order to satisfy the local claims of all districts the Premier makes two transverse lines, one from Burgersdorp on the eastern to Norval's Point on the western system, and another 500 miles long, running east and west through the whole extent of the Colony from King William's Town to Cape Town and touching the sea at Mossel Bay. The scheme included also a coal line from Indave to the neighborhood of Molteno, while the extension of the Kimberley line that the Government was building to Vryburg was transferred to the Chartered Company, which intends to carry it into Mashonaland. The Premier did not pretend that the long line through the coast districts would prove self-supporting for many years to come. As his huge project would add 50 per cent. to the public debt, depreciate the 34-per-cent. stock, and augment the annual taxation by half a million sterling, the Dutch party, led by Mr. Hoffmeyr, which has been the main strength of the ministerial majority, joined Mr. Sauer's little English party in defeating Sir Gordon Sprigg's railroad bill. The Premier resigned, and since Mr. Sauer could not form a Cabinet and Mr. Hoffmeyr would not take office without a hope of carrying out some of the ideas of the Afrikaner party, Cecil Rhodes formed a composite ministry on July 17, composed of the following members: Premier and Commissioner of Crown Lands, Cecil J. Rhodes; Attorney-General, J. Rose Innes; Treasurer-General, J. X. Merri-man; Colonial Secretary, J. W. Sauer; Secretary for Native Affairs, P. H. Faure; minister without portfolio, J. Sivewright. Mr. Sivewright, one of the leaders of the Dutch party, had offered a substitute railroad bill, leaving out the immense duplicate connecting road with its branches. The new Premier announced that no legislation would be submitted outside the programme of his predecessor, which included measures in regard to leprosy, education, a school of mines, a ministry of agriculture, and a new census in 1891. The intention of the new ministry was to have a purely South African policy, and in regard to expenditure to proceed with caution. Mr. Rhodes is a young man who, by effecting the consolidation of the diamond mines of Kimberley into a trust company with the object of keeping up

prices by limiting production, gained great wealth and a world-wide reputation as a financier. He afterward obtained control of some of the most important gold mines that were opened in the Transvaal, and then conceived the ambitious plan of a commercial monopoly of the mineral wealth and other resources of all the unoccupied territory north of the South African Republic, and founded the Chartered Company for this object. The Parliament approved the alternative railroad bill providing for a single junction between the two systems and a road to the coal fields, and also voted to construct a line from Colesberg to Bloemfontein, in the Free State, and thence to the Vaal river. The session closed on Aug. 20.

Natal.—The Governor of Natal, who is also Governor of Zululand, is Sir Charles B. H. Mitchell, appointed in 1889. The area of the colony, which has a coast line of 200 miles, is estimated at 21,150 square miles. The population in 1888 was 481,361, comprising 35,933 Europeans, an increase of over 50 per cent. since 1879; 35,270 East Indians, an increase of about 85 per cent.; and 410,158 Caffres, an increase of nearly 30 per cent. The colonial revenue in 1888 was £990,614, and the expenditure £781,326. The chief product for export is cane sugar, of which 15,554 tons were produced in 1887. The natives grow large quantities of wheat, corn, oats, and vegetables, and have considerable herds of cattle and Angora goats. The coal deposits in the northern part of the colony are worked now to a small extent, a railroad having been carried into the coal field in 1888. The imports in 1888 amounted to £2,890,468, and the exports to £1,417,871, of which £941,562 represent the produce of the colony. Four fifths of the imports come from Great Britain. The number of vessels entered in 1888 was 447, of 362,237 tons. On Jan. 1, 1889, the number of miles of railroad already completed was 234. The lines are being extended to the borders of the Orange Free State and the South African Republic. The gross earnings in 1888 were £349,184; expenses, £247,991. The public debt, which was contracted mainly to build railroads, amounted in the beginning of 1889 to £4,535,126. The elections in the autumn of 1890 were unusually exciting on account of the question of responsible government that came before the constituencies.

Orange Free State.—The smaller of the Boer republics, which has Griqualand West on the northwest, Natal and Basutoland on the southeast, the Transvaal to the north, and Cape Colony to the south of it, is about 41,500 square miles in extent, with a white population of only 61,022, according to the census of 1880. They are descendants of the old Dutch, Flemish, and French Huguenot settlers of the Cape of Good Hope. Immigration is increasing, the immigrants coming from Germany and British lands. The legislative power is vested in the freely elected Volksraad of 57 members, and the executive in a President chosen by the votes of the burghers for five years. Judge Reitz, who was elected on the death of Sir John Henry Brand, was sworn into office on Jan. 11, 1889. The land, consisting of undulating plains, is well adapted to grazing. Only 2-6 per cent. of the white population is illiterate. The chief commercial product is wool,

in addition to which sheep, horses, and cattle, hides, diamonds, and ostrich feathers are exported. The total value of imports is estimated at £1,000,000, and exports at twice that amount. The revenue for 1889-90 was £272,323, and the expenditure \$205,000. The surplus for that and the preceding year, amounting to £132,785, has been applied to education and to building roads and bridges. The President has proposed an amendment to the Constitution, empowering the Executive to suspend the operation of laws passed by a small majority. Commercial treaties have recently been negotiated with Italy, Holland, and other countries. The republic will soon have railroad connections with the Cape system and with Natal, which has not yet entered the South African customs union, and eventually will possess an alternative communication with the sea over the projected railroads of the Transvaal.

South African Republic.—The state formerly called the Transvaal Republic has an area of 121,854 square miles, and the white population in 1889 was estimated at 110,000, of whom 62,000 were of the original Dutch stock. There are said to be 500,000 natives. The gold-diggers numbered about 20,000, and the traders 10,000. Johannesburg, the center of the Witwatersrand mining district, had a steady population of 30,000 and a transient population three times as great. The financial accounts for 1888 showed a revenue of £884,440 and £770,492 of expenditures. On Dec. 31, 1888, there was an unexpended balance of £276,006. For 1889 the revenue was estimated at £1,382,661, and expenditure at £1,030,890. The soil is divided into about 20,000 farms, of which one fifth are the property of the state, which owns the principal mining lands in the Barberton district. The extent of the gold fields proclaimed up to the close of 1889 was 1,500,000 acres. The gold exported in 1889 amounted to £876,980. There were then more than 371 companies, including those working in Swaziland, with 2,151 stamps in operation, the total nominal capital amounting to £21,473,000. The Selati fields in the Zoutpansburg district are said to be richer even than those of the Witwatersrand, and a railroad to that point is to be constructed. Wool growing and cattle raising are the principal occupations of the old settlers. Agriculture is not much pursued except by the natives, although wheat, tobacco, sugar, coffee, and cotton can be grown. Wine and brandy are produced in considerable quantities. Since the opening of the gold mines the Boers have found transportation with ox teams a very profitable employment.

The British and Australian miners who form the bulk of the immigration that has built up Johannesburg and other mining stations, who at first were content to pay taxes to the Transvaal Government in return for an efficient police service and protection from the natives, soon demanded a share in the control of the Government, growing bolder as they increased in numbers, until the Boer statesmen began to fear violent manifestations and collisions that would lead inevitably to the annexation of their country by Great Britain and the subversion of their national institutions. When President Krüger visited Johannesburg to discuss the situation in March, 1890, he was prevented from speaking by a turbulent mob who, reproaching him for the in-

sufficiency of the promised concessions, tore down the flag of the Republic and hoisted the British flag in its place. Three men, named Rudd, Rogally, and Reid, were arrested as the ringleaders, and were tried at Pretoria in July, when they were acquitted by a jury anxious to avoid international complications. An editor named Rodway who had been indicted for treasonable designs against the Government of the Republic was discharged from custody through the interposition of the British representative. The miners at Johannesburg were appeased by the promise of the early construction of a railroad from Pretoria to their place. To avoid occasions of friction and strife that could lead to the loss of Transvaal independence, President Krüger framed a bill to give the strangers participation in the government of the country by the creation of a separate Volksraad, to be elected by them, the measures of which will be subject to the veto of the regular Volksraad elected by the Boers. He persuaded his countrymen to adopt, much against their inclination, this change in the Constitution. The President of the Republic and the Commandant-General of the forces will be elected, as before, by the native burghers, and the other members of the executive are chosen by the Upper Chamber. The new Chamber has power to legislate for the local interests of the country with the concurrence of the other Chamber. A residence of five years entitles a foreigner, on the fulfillment of certain easy conditions, to full citizenship, except that he is not eligible to the Upper Chamber unless he has served for a certain number of years in the other. The Government has decided to proceed rapidly in its plans of railroad construction. A road from Pretoria to meet the Portuguese line from Delagoa Bay, and to meet the railroad crossing the Orange Free State from Cape Colony to the Vaal river, with branches to the mining districts, and to join the road connecting the Orange Republic's system with Natal and the coast, are the main features of the scheme.

The Swaziland Settlement.—The death of the Swazi king, Umbandine, made the matter of the settlement of the control of the country more urgent. The convention of 1884 between the Transvaal and British governments guaranteed the independence of the Swazi nation. The concessions obtained from the late king by British gold miners and Boer farmers rendered necessary a new arrangement for the control of the white settlers. Sir Francis de Winton, who was sent to study the question on the spot in conjunction with commissioners of the Transvaal Government, was believed to have taken with him instructions for abandoning the joint protectorate possessed by Great Britain and permitting the Transvaal Boers to annex the country, thus securing the possibility of access to the sea that was denied them in Zululand. The British authorities could not see their way to acquiring the territory themselves, since it can not be entered from British territory without passing over foreign soil. The report of the British commissioner was in favor of handing over the entire control of the whites to the Boer Republic. The proposed settlement was strongly condemned by the imperialists in England, who protested with such energy that the preliminary arrange-

ment with President Krüger was modified. In the final settlement the independence of the Swazis was reaffirmed in regard to all affairs in which natives only are concerned, which will remain under the control and management of the Swazi Government. Over the white settlers there shall be a joint administration. A court of justice will be established to decide cases, criminal and civil, in which whites are concerned according to the Roman Dutch law, and to inquire into the validity of concessions concerning which there are disputes. All lawfully acquired rights will be recognized by the Joint Government Committee and by the Court of Justice. The Government of the South African Republic undertakes not to interfere to the north or northwest of the Republic, and to support by its influence the establishment of order and government by the British South Africa Company. The British Government recognizes the right acquired by the South African Republic by concession of the King of Swaziland to construct a railroad through Swaziland toward the sea, to continue it to the sea at Kosi Bay, and to obtain at that point a piece of land ten miles in radius, special provision being made to prevent the terminus at Kosi Bay from falling under the sovereignty or control of a foreign power. Provision is made for the entrance of the South African Republic into the customs union convention with the Cape, Orange Free State, and Bechuanaland, failing which the agreement as to Kosi Bay becomes void. The joint government of Swaziland is to continue for three years, and then by tacit consent, subject to termination on six months' notice; but if the South African Republic enters the customs union the arrangement is for an unlimited time. The convention was signed on Aug. 2, 1890. Swaziland has an area of 8,000 square miles, and is surrounded on three sides by the South African Republic. Between it and the sea is Portuguese territory and the territories of two chiefs in the Mombasa range, over which the Portuguese Government has claimed suzerainty, and beyond them the coast district of independent Tongaland. It has a population of 63,000. Of this number 9,000 are fighting men. The people are a happy, indolent race of savages. The country is a healthful elevated region, reputed to be remarkably rich in minerals and in agricultural capabilities. White people, most of them burghers of the South African Republic, but acting usually in the interest of British speculators, obtained, or pretend to have obtained, from the late king concessions not merely of all the mineral rights and the best grazing lands in the country, but monopolies of transport and of taxation and licenses for trading. During the negotiations between the British and Transvaal governments Bunu, the infant son of Umbandine, was installed as king, with his mother as regent. Government was administered by a temporary triumvirate, consisting of the queen and representatives of the two powers, Col. Martin acting for Great Britain and Judge Esselen for the Transvaal. The convention was spoken of by President Krüger in the Volksraad as a temporary arrangement that would give place later to the annexation of Swaziland to the South African Republic. The Raad, in ratifying the instrument, reserved the

claims of the Republic to Swaziland as soon as the native government should be firmly established and questions of property rights settled. The Portuguese Government protested against the convention as incompatible with prior treaty arrangements between itself and the South African Republic. The people of Natal objected to the employment of the Swaziland question as a lever to force the Transvaal into the customs union to the detriment of their trade. At present goods entering the Transvaal pay 6 per cent. duty to Natal and 5 per cent. to the Republic; whereas under the customs union convention the duties payable on goods imported through Cape Colony, now 25 per cent. altogether, will be lowered to 15 per cent., while those borne by goods entering by way of Natal or Delagoa Bay must be raised to the same figure.

Zululand.—A British protectorate was proclaimed in May, 1887, over the territory that was restored to Cetewayo in 1883, with the exception of about one third forming the New Republic. The country is administered by a resident commissioner, at present M. Osborn, under the supervision of the Governor of Natal. It includes the territory that was formerly called the Zulu Reserve, and has a total area of 8,900 square miles, with about 50,000 inhabitants. The natives pay a hut tax of 14s. per annum. They raise cattle and Indian corn for export. The revenue in 1888 was £32,874, and the expenditure £34,005. The chief, Dinizulu, son of Cetewayo, and the latter's brothers, Tshingana and Undabuko, who were convicted of treason in April, 1889, for attempting to disturb the British arrangements in Zululand, were deported to St. Helena in February, 1890.

Bechuanaland.—Including the Crown colony, 45,000 square miles in extent, with a population of 44,135 souls in 1885, the protectorate of Bechuanaland has a total area of 162,000 square miles. The Crown colony extends along the western frontier of the South African Republic from the northern limit of Cape Colony as far as Molopo river, while the protectorate extends beyond the river westward as far as 22° of east longitude, and northward to 20° of south latitude. The country produces Indian corn and cattle, and tobacco has been planted recently. The revenue obtained from a hut tax of 10s. and 10s. on each wife of a native was £15,750 in 1888-'89, which was increased by a parliamentary grant to £29,017, while the expenditure was £61,663. The administrator is Sir Sidney G. A. Shippard. There is a force of 500 border police, of whom 400 patrol the protectorate.

Matabeleland.—The Matabeles are the people who, under Moselicate, were defeated by Chaka, the Zulu king, then conquered the Transvaal territory, and when they were driven thence by the Boers, about 1840, settled in the region north of the Limpopo. They are ruled by Moselicate's son Lobengula, an able tyrant, who has conquered Mashonaland and laid under tribute all the Makalalas and other tribes south of the Zambesi, and some beyond. His territory extends from Khama's country, called the British Bechuanaland Protectorate, on the west to the Portuguese coast district of Sofala on the east. The country of the Mashonas lies between the Portuguese boundary and Lobengula's own country.

The Portuguese have claimed it by virtue of treaties with the Mashonas, and have recently effected a settlement. The British denied their rights, and in the Anglo-Portuguese settlement of 1890 this region, which is the El Dorado of South-African gold seekers, and all the region ever raided by Lobengula's impis, with a vast area beyond as far as the confines of the Congo Free State, were acknowledged to be British. This was the result of the labors of Cecil Rhodes, whose Chartered Company of South Africa, of which the Duke of Fife is president, was authorized in 1889 to organize an administration for the whole territory north of 22° of south latitude and east of 20° of east longitude, including the Bechuanaland Protectorate, Matabeleland, Mashonaland, and the indefinite area north of the Zambesi. The commercial company, to which despotic powers of government and the monopoly of all productive resources have been conceded by the British Government has acquired no rights in its future empire of British Zambesia except what were conveyed in a document to which Lobengula set his seal. He denies that he granted a monopoly of lands or mines, for the queen's letter warned him not to give all his oxen to a single person, as then he would have none for other hungry men who come afterward. Since President Joubert wrote him that the English are like monkeys, grasping things and never letting go until they are whipped, he has been less stern in reproving his young impis who have not yet washed their assegais in blood and are eager to attack the whites since no other people are left to conquer. The 1,000 rifles that the Chartered Company promised he has refused to accept, and the gold that they have paid, £100 a month, he has stored, ready to be returned at any moment. The Matabeles, who have an abundance of rifles, are fair marksmen, and in a charge their spears are terrible; 13,000 impis that the king gathered for a war dance when the company's agent came to close the arrangement are said to be less than half of his fighting force. The Matabele tribe is supposed to number 200,000 persons. The area of Matabeleland and its dependencies is 100,000 square miles; that of the whole of the part of British Zambesia lying south of the Zambesi is 250,000 square miles. The country is exceedingly fertile in parts, but very hot during the winter solstice, and infected with fever. Rain falls only from November till the middle of January. The soil supplies the natives with plenty of Caffre corn and pasturage for their cattle. The missionaries, who have never made a single convert, raise wheat, potatoes, oranges, and other products. The Matabeles have no arts or industries, and never work. Even their assegais they get from Mashonaland. A single man owns sometimes 4,000 cattle, and as many sheep and goats. All labor is performed by slaves, and among them it is the women who toil. In the beginning of June, 1890, when pioneers of the Chartered Company were about to enter Mashonaland from the south, all the whites at Gubulawayo, Lobengula's capital, fled in terror. Why did the company's people steal in like thieves, he asked, if their claim was true that he had given them the whole country? The wealth of Mashonaland in the precious metal is known by tradition and by the quantities of alluvial gold washed out in wooden basins from the earth

in the stream beds by women and exported in quills. Lobengula's envoys who went to England in 1889 reported great things concerning the power and multitude of the English. Since their return no gifts from the whites are kept, and the king observes an attitude of diplomatic caution and reserve that portends a contest before mining operations can be carried on, into which the imperial forces may be drawn as a consequence of the first affray between the police and Lobengula's restless warriors. Boers who planned to forestall the English and obtained concessions in Matabeleland were checked by the Transvaal Government. The South Africa Company's pioneer expedition of 500 men advanced into Mashonaland along the Limpopo toward the end of June. They built a permanent road as they advanced and a chain of forts about 75 miles apart, in which garrisons were left. The party took every precaution against attack, posting their Maxim guns in position for action at every encampment. They established their northernmost post at Mount Hampden, where the placer diggings are worked by the natives. The Mashonas received them with joy as their deliverers from the bloody incursions of the Matabeles, who were restrained by their politic ruler from attacking the expedition. A. R. Colquhoun, administrator of the territory, has laid down stringent regulations for the control of the company's employes, and the white miners who began to flock in from the Transvaal immediately, for in no other part of South Africa can gold be washed from the gravel in paying quantities.

The Delagoa Railway Dispute.—The Delagoa Railroad, built by Col. Edward McMurdo, having been forfeited because it was not completed to the point declared to be the frontier within the prescribed time, and the Portuguese company that held the charter having dissolved, the English Government, in behalf of the British construction company that provided the capital, and the Government of the United States, in behalf of the widow and heirs of Col. McMurdo, raised a claim for damages. On Sept. 10, 1889, Lord Salisbury, in a dispatch to the British minister at Lisbon, expressed the opinion that in confiscating the works and canceling the concession the Portuguese Government had acted wrongfully, and offered to submit the amount of compensation to be paid to the English company to arbitration if the Portuguese Government admitted its liability. The United States Government seconded his contention, and in July, 1890, the three governments asked the Swiss Federation to appoint three jurist to assess the damages.

Damaraland.—The German colonial establishments in Southwest Africa have proved unprofitable as a commercial undertaking. The port of Angra Pequena and the adjacent territory was seized in 1884, and ultimately German authority was proclaimed from the Cunene river in 17° of south latitude north of Cape Frio, to the Orange river in 27° of south latitude, and was extended inland to 20° of east longitude. The Cape Colonists, though they were powerless to prevent the English Cabinet from acceding to the establishment of a German protectorate, have been able by inciting the hostility of the natives against the Germans to render productive enterprise impossible and the effective pos-

session of the country difficult. The mining concession of the Herero chief to Robert Lewis was the principal basis of their plots, and his claims were kept alive for the purpose of securing more favorable terms in future negotiations with the German Government. A mixed German and English commission in 1885 affirmed his right to certain mines. When he was taking his machinery to the ground, Capt. von François and Deputy-Commissioner Nels stopped him at Tsaubis, and informed him that he must apply for a formal permission before beginning operations. This he refused to do, having the year before defied the imperial commissioner and refused to acknowledge the German protectorate. Returning to Walfish Bay, he complained to the Cape authorities, and in 1890 went to England to lay his protest before the British Government. Lewis claims, by virtue of the grant of Kamaherero, the exclusive right to dig minerals throughout the whole extent of Damaraaland. The German acquisitions were found to be almost valueless, aside from their mineral resources, except as a means of access to pastoral regions beyond and to the trade of the interior, and in the Anglo-German settlement of 1890 the German Government endeavored to acquire a pastoral country and a trade route to the Zambesi.

Ngamiland.—The main object of the proclamation of British sovereignty in Bechuanaland and a British sphere of influence up to 22° of south latitude was to separate the Germans from the Transvaal by a barrier of British territory. It was supposed also that they were excluded from any extension into the interior beyond the Kalihari Desert, since Portugal claimed the regions north of latitude 22°. By an agreement with Portugal and treaties with native chiefs the German Government, nevertheless, acquired territorial rights over the rich country that has Lake Ngami in its center. With the Portuguese Government a treaty was signed on Dec. 30, 1886, permitting the expansion of the German possessions to the upper course of the Zambesi. In the negotiations with Great Britain in 1890 the German Government put forward the claims it had acquired over this desirable region. The English at the same time advanced counter-claims, and in the final settlement, in which various conflicting rights and aims of both governments in Africa were balanced against each other, a compromise was struck that gave Ngamiland to Great Britain and to Germany a strip running to the upper Zambesi. Besides claiming Ngamiland, the Germans disputed the boundary of the British protectorate, which was asserted in the proclamation of 1885 to be 20° of east longitude, affirming that the countries over which they exercised a protectorate extended to 24° of east longitude. They also pressed for the abandonment to them of Walfish Bay, the only good harbor along the German coast, to which the Cape Colonists cling tenaciously, being resolved to make every effort to drive the Germans from the southwest coast and to gain the whole region south of the Zambesi for the South African confederation that they hope to form under the hegemony of Cape Colony and the protection of Great Britain. The German Government, by the abandonment of

Ngamiland, virtually relinquished the prospect of ever being able to contend with England for the supremacy in South Africa, obtaining as the price the cession of the island of Illegoland, which is held by the German nation to be of greater value than any colonial expansion in South Africa. By the agreement that was signed at Berlin on July 1, 1890, the Orange river and the 20th meridian remain the south and east boundaries of the German sphere of influence. At latitude 22° the line runs eastward to the 21st meridian, which forms the eastern boundary northward as far as the 18th parallel, which it then follows eastward to the river Chobe, descending that river to its junction with the Zambesi, where it terminates. Germany is to have free access from her protectorate to the Zambesi by a strip of territory nowhere less than 20 miles wide, extending along the Portuguese frontier. This is supposed to be merely a formal concession, because the narrow strip, traversing an almost impassable country where the head streams of the Chobe take their rise in marshes, is of no value as a trade route. A dispute regarding the southern boundary of the British territory of Walfish Bay was left to be arbitrated in case the two governments fail to come to an understanding within two years, the disputed territory being in the mean time considered neutral. The Germans, in drawing the line from the village of Schepensdorp to the Swartkop river, had included in their territory a plateau that the Cape officials claimed on the ground that it was used as grazing-ground during a part of the year by natives living under their jurisdiction.

Ngamiland, since it was discovered by David Livingstone, in 1849, has never engaged the attention of Europeans until it became an object of contention between the English and German governments. The term is applied to the territory lying north of the 22d parallel and east of the 21st meridian, and bounded on the east by a line intersecting the 22d parallel and passing through Letterboom, on the Botletli, to the confluence of the Chobe and the Zambesi, and on the north by a line drawn from that point through Andara to the 21st meridian. This country, having an area of about 75,000 square miles, is one of the most fertile districts in southern Africa. In the center is Lake Ngami, through which passes the navigable Okavango, or Tonke river, known as the Botletli, or Zuga, after it issues from the lake. South of the lake is a well-watered, hilly, forest region, said to contain valuable minerals, and known to have a remarkably pleasant and healthful climate. Immediately north of the lake is a swampy district full of large game and elephants, where one of the most valuable fibrous plants, the bauze grass, resembling silk in fineness, grows wild in profusion. Beyond are vast prairies, on which the finest cattle in South Africa are reported to roam in herds. Ngamiland is inhabited by the western branch of the Bamangwatos, a peaceable and industrious people, who travel as far as Johannesburg in search of work. One of the most powerful chiefs is Moremi, who has for his adviser a missionary trader named Strombone, a Swede, who was induced after the Germans began to acquire territorial rights from neighboring chiefs to obtain from Moremi a concession

of all the mining rights in the country and certain limited grazing and timber rights. A company was formed at Cape Town to take over this concession, which was granted in August, 1889, and announced to the public in January, 1890. The regions of the upper Zambesi lying north of Ngamiland were acknowledged in the Anglo-Portuguese agreement to belong, on the Hinterland principle, to Portuguese West Africa.

CHEMISTRY. Chemical Theory.—One of the most important recent papers in the department of chemical theory was the address of Victor Meyer at the meeting of the Association of German Naturalists and Physicians for 1889, on "The Chemical Problems of To-day." After reviewing what had been accomplished in chemistry up to the present time, the author admitted that the science has not yet reached mathematical completeness, and proceeded to point out the questions now in sight of which further investigation is needed. Most prominent of these stand two fundamental problems that must be solved before we can arrive at a mathematico-physical treatment of chemical phenomena in general. They are, What is chemical affinity? What is valency? The doctrine of structure, developed by a number of chemists from Hoffmann to Kekulé, has been further advanced by the stereometric researches of Van't Hoff, who has been able to map out with great probability the arrangement in space of the atoms of the molecule. The linking together of atoms is found by other researches to be dependent on electrical conditions, or to be determined by the presence of two opposite electric poles which rest at the ends of a very short line. Such a system is called a dipole, and the attachment of two valencies to each other consists in the attraction of their opposed poles. Other facts relative to the positions, dimensions, and rotations of the valencies furnish a hypothesis which opens the way to an understanding of the most important properties of that attribute. The doctrine of substitution has likewise experienced a peculiar enlargement. Dumas first showed that the properties of organic compounds are generally little changed when the hydrogen of the same is replaced by univalent elements or groups. Later experiments have shown that even much more radical changes in the composition do not materially influence the properties of the substance. One of the most far-reaching discoveries of our epoch is that of the natural system of the chemical elements, or the principle that their properties are functions of their atomic weights, with which the names of Newlands, Mendeleeff, and Lothar Meyer are associated. The natural system has imposed on us a problem of great significance in the new determination of the atomic weights, the numerical values of which are now of increased interest. Numerous other problems are presented by the system. We do not yet discern the cause of the inner nexus of the elements as the system offers it. The less studied elements need to be brought into the system. New elements indicated by it remain to be discovered. We know to-day about seventy elements; Mendeleeff's table has places for exactly one hundred. Other problems calling for continued study lie in the field of dissociation and include the possibility of further decomposing any of our present

supposed elements; the nature of solution, in which new methods are found for the determination of molecular weights; and in thermochemical questions. In organic chemistry, the discoveries that have been made in the production of valuable colors, aromatic substances and drugs from coal-tar products, and successful experiments in synthesis invite to further research. Many amorphous substances still need to be studied and analyzed, and new methods are wanted for recognizing the individuality of such substances. The farmer has been occupied from time immemorial in preparing starch from carbonic dioxide and water, and chemistry is not likely to offer any improvement on his process. "But we may reasonably hope that chemistry will teach us to make the fiber of wood a source of human food"; and "the increase of albumen in plants, according to a plan, together with the production of starch out of cellulose—this would in reality signify the abolition of the bread question."

An attempt has been made by F. W. Clarke to estimate the relative abundance of the chemical elements on the earth, including the air and the ocean. For the data of his calculations, the author has taken the analyses of the ocean described by Dittmar in the "Reports of the Challenger Expedition" and the mean of 880 analyses of rocks made by geologists in the United States and Europe. These analyses give fair bases for the computation of the relative proportions of nine of the chief rock-forming elements. The proportions of the others are less easily computable, but special examinations of the analyses make fair estimates possible, till the number of calculable elements is carried up to nineteen; while the fifty left unaccounted for can hardly aggregate altogether more than 1 per cent. of the whole. From the table embodying the results of the calculations, the nine elements first mentioned appear to constitute 98 per cent. of all known terrestrial matter. They are: Oxygen, 49.98 per cent.; silicon, 25.30 per cent.; aluminum, 7.26 per cent.; iron, 5.08 per cent.; calcium, 3.51 per cent.; magnesium, 2.50 per cent.; sodium, 2.28 per cent.; potassium, 2.23 per cent.; and hydrogen, 0.94 per cent. The rest of the nineteen elements are, in the order of their abundance, titanium, carbon, chlorine, bromine, phosphorus, manganese, sulphur, barium, nitrogen, and chromium.

Another attempt to explain the genesis of the elements has been made by Mr. H. M. Vernon. Supposing the various elements to have been formed during the process of the cooling of matter by the association, first, of atoms of the primordial matter among themselves, and then of the resultant molecules with other primordial atoms, kinds of matter—or elements—would be formed more or less stable as to heat. Attempts to resolve such elements into their components have so far failed because of the impossibility of applying a sufficient degree of heat; but the fractionation experiments of Mr. William Crookes and his "meta-elements" indicate that these efforts are in the right direction. We look to the sun to learn if disintegration of some of the elements may not have been effected there, at temperatures higher than any that can be obtained on the earth. By spectroscopic analysis

about half the elements known to us have been found to exist with more or less probability in the sun. Comparing these with the elements in Mendeleeff's periodic table, nearly all the most positive elements appear to be present, while as the elements become more negative fewer of them are seen there. Hence a rule is supposed, that as we pass from positive to negative elements their stability with regard to heat decreases proportionately as their negativity increases. The table of the elements found in the sun contains no non-metallic elements, unless we except hydrogen. It is hence inferred that those bodies, taken as a whole, are much less stable with regard to heat than the metals; and this is borne out by what is otherwise known of their behavior when subjected to moderately high temperatures, when they all appear to possess simpler molecules than at low temperatures. The behavior of the gaseous molecules of the metals that have been thus examined is different from this. They have all, so far, been found to contain only a single atom, whatever be the temperature to which they are subjected. The metals thus examined are sodium, potassium, zinc, cadmium, and mercury; and all of these, except mercury, have been found to exist in the sun. In the case of the other metals it would probably be found, if their vapor densities were taken, that the molecules of the more positive bodies contain only one atom; but that as they begin to develop negative properties their molecules will be more complex at lower than at higher temperatures, thus indicating that at higher temperatures still, such as that of the sun, they would probably dissociate into still more simple bodies—or bodies more stable with regard to heat.

"An Inquiry into the Conditions which underlie Chemical Relations" was the subject of a paper by Prof. A. A. Dolbear, at the American Association. The author said that whenever a chemical change takes place there is an exchange of energy, and the amount of energy is proportioned to the weight of the substances involved. Heat may be measured by foot-pounds, but heat consists in vibratory atomic and molecular motions, and hence the temperature of an atom is determined by the amplitude of its vibrations. The vibratory motions constituting its heat determine the existence of chemism, and its amount. "If we adopt the vortex theory of atoms, which is that atoms consist of vortex rings of ether in ether, it is easy to see what the internal energy or vibratory motion is; for if such an atom vibrates at its fundamental rate it will have four nodes and two loops, the latter being the places of maximum vibration and the nodes of the least." The author then showed how, upon this theory, atoms attract to themselves other atoms, which vibrate in harmony. Thus are built up molecules. When the vibrations exceed a certain limit the atoms are separated and dissociation occurs. Each molecule has its special field of vibration, and another body in that field will be compelled to assume a certain position with reference to it. "In conclusion, as each structure has its own compelling field, it follows that the phenomenon we call growth differs from the growth of crystals in nothing but the complexity of the process, and as each structure compels, in greater or less degree, that the organization in its field be simi-

lar to its own, the phenomena of heredity and of variation in living things are traceable to the mechanical conditions described."

A "chemical atom" in the investigations of Prof. A. Grünwald is none of the metaphysical atoms hitherto admitted. In his theory it is a complex of many movable particles, which are elastic, but so intimately connected that no chemical process we know of is capable of severing their union. Not even the parts of the atom are conceived as immutable any more than the atom itself, but they are regarded as capable within finite limits of undergoing modifications that have definite relations to their mutual reactions. This view renders it intelligible that an atom may have a spectrum consisting of numerous rays of different wave lengths. This spectrum varies according to fixed laws, when the chemical condition of the substance consisting of such atoms and its relations to other substances vary. It is possible, and even probable, that the particles of an atom are identical with the particles of the ether, or with condensation forms of the ether.

The results of experimental researches by Dr. G. Gore suggest that the chief physical and chemical properties of substances may be to a large extent represented by geometrical curves. It appears from them that every different substance, when in aqueous solution, gives, by varying the degree of strength of its solution (or by varying its temperature), a different curve of electromotive force; that this curve is characteristic of the substance; that under these conditions substances which constitute a recognized chemical group yield a series of curves which usually exhibit a gradation of likeness of form; that the degrees of electromotive force of such a group usually vary in magnitude inversely as the amounts of the atomic or molecular weights of the substances; that a much greater increase of electromotive force is usually caused by the first amount of substance added to the water than by the subsequent amounts; that the chemical union of two substances to form a soluble salt is attended by a definite decrease of electromotive force and a definite change of form of curve; that the substitution of one halogen acid or metallic base for another in the composition of a soluble electrolytic salt, is accompanied by a definite amount of change of that force and of the form of its curve; and it will probably be possible to trace, by means of these changes, the presence of each halogen acid and metal in the various solutions of its salts; that isomeric solutions of electrolytic substances give different curves under the same conditions, and may thus be distinguished from each other; that molecular and chemical changes and their rates in electrolytes may be examined and measured by this method.

Chemical Physies.—The chemical changes which may take place in rocks under mechanical stresses, as they have been established by direct experiment and have been illustrated in observations of the minute structure of rocks, are described by Prof. J. W. Judd in twelve propositions, which may be summarized as follow: 1. In all those cases in which crystallization is accompanied by contraction the tendency of pressure is to promote the change from an amorphous to a crystalline

condition; 2. Crystallized minerals developed in a magma under pressure may lose their stability and be dissolved in the same magma when the pressure is removed; 3. In all those cases where solution is accompanied by contraction the solvent action of water and other liquids is increased by pressure; 4. Under great statical pressures the whole substance of solid bodies may be permeated by fluids, and chemical reactions between them be thus greatly facilitated; 5. By such intimate intermixture of solids and fluids the properties of the former undergo great modifications; 6. Mechanical stresses which tend to overcome the attraction of the particles of a solid promote chemical action at those parts of the mass which are in a condition of intense strain; 7. Pressure may supply the conditions for the renewal of the growth of crystals when their development has been arrested for an indefinite period, and even after they have suffered mechanical injuries; 8. When solution under pressure is going on in a crystalline body the action is controlled and modified by its molecular structure; 9. Under great pressures paramorphic changes take place in crystalline bodies without any alteration of their chemical composition; 10. Both solution and the formation of new crystalline compounds may result from pressure, and the two may take place together; interchange of ingredients may take place between the crystalline bodies, and pseudomorphs be formed; 11. When the crystalline contents of rocks are brought into close contact by dynamic pressure, chemical affinity comes into play between them, and new mineral species may result; the operation is facilitated when, as a consequence of internal strains, differential movements are set up within the rock mass, and rubbing or sliding contacts between its particles are brought about; 12. When internal strains and differential movements affect a mass which is at the same time undergoing recrystallization, the forms and relations of the crystalline particles that build up the new rock may be greatly modified by the action of the mechanical forces. Statical pressure is not regarded as an agent of change, like heat or electricity, but simply as a condition under which these agents operate. Such pressure, too, may produce great effects by causing a closer contact and consequent chemical action between the molecules of a fluid made to penetrate a solid, or between the molecules of two solids forced into more perfect contact. Statical pressure may further promote the escape of volatile materials even under extreme temperatures, and these substances may exercise important influences on the solids and liquids within which they are retained. Dynamical pressure, especially when it results in differential movements in a mass, can certainly do all that is effected by statical pressure, and perhaps something more.

Drs. Senbert and Pollard, of Tübingen, report upon their experiments for determining the density and boiling point of cyanogen iodide, CNI , a substance very difficult to deal with on account of its extremely poisonous nature, which is made more dangerous by its great volatility. It is characterized as an exceptionally beautiful substance, and has the property of subliming and forming long, delicate, colorless, but highly re-

fractive needles, bridging over from side to side of the wide tube or flask in which the operation is performed. These elongated prisms often attain the length of six inches or more, and frequently form an interlacing network, among which may be seen an occasional star-shaped or flower-like aggregation of smaller crystals. These crystals have also the property of resubliming from one side of the vessel to the other, according as their position is varied as regards the direction of the light which falls upon them.

Experiments made by Carl Barus with a variety of substances show that if temperature and pressure vary linearly at a mean rate of about $11^{\circ} C.$ per atmosphere, there will be no change of volume. By judicious extrapolation, the probable contours can be computed to 1,000 atmospheres, with results accentuating this law. The author has found, furthermore, that the pressure necessary to solidify a substance is, other things being equal, decidedly in excess of the pressure at which it again liquefies. Making use of this as a type of lag phenomenon, he is led to results bearing directly on all lag phenomena, and beyond this on the molecular structure of matter in general. Operating above $100^{\circ} C.$, he observed that (liquid) water at a pressure of 20 atmospheres and a temperature of 185° attacks ordinary lead glass so rapidly that in very fine capillary tubes the contents became opaque and solid in about an hour. During this time the compressibility at 185° gradually and regularly increased to a final value about three times the original value. At the same time the isothermal volume of the silicated water decreased fully 18 per cent. of its original bulk. In the case of mercury, the simultaneous decrements of electrical resistance and volume were found to be proportional to each other. The result indicates a new method of attacking the thermo-dynamic problems mentioned, and has already, according to the author, led to conclusions of electrical interest.

The destruction of the passivity of iron in nitric acid by magnetization has been the subject of continued studies by E. L. Nichols and W. S. Franklin. The behavior of iron in nitric acid solutions varies with the temperature and strength of the acid and with the molecular condition of the metal. Increase of temperature promotes the action of the acid. Time of exposure operates to lower the temperature at which passivity is lost. The authors found that the action of the magnet is to lower the temperature of transition to the active state, and that the intensity of the magnetic field necessary to convert passive into active iron at a given temperature increases rapidly with the concentration of the acid.

In later papers respecting his investigations of allotropic forms of silver, Mr. M. Carey Lea observes that the three forms—"the blue soluble and the blue and yellow insoluble—are not to be understood as the only forms that exist, but as only the best marked. The substance is protean, and exhibits other modifications not yet studied. No other metal than silver appears to be capable of assuming such a remarkable variety of appearances. Every color is represented. I have obtained metallic silver blue, green (many shades of both), red, yellow, and purple. In

enumerating these colors I do not refer to interference colors produced superficially by reagents—also wonderfully brilliant—but to body colors. As a single instance of coloration, the following may be mentioned: I recently obtained a solution of allotropic silver of an intense yellow-brown. A little solution of disodic phosphate changed this to bright scarlet (like Biberich scarlet), presently decolorizing with formation of a purple precipitate. Washed on a filter, this changed to bluish green. The colors I have met with in this investigation can only be compared with the coal-tar products, of which one is constantly reminded by their vividness and intense calorific power."

A joint discussion by the chemical and physical sections of the British Association on the nature of solution and its connection with osmotic pressure, was opened by Prof. Pickering in a paper on the present position of the hydrate theory of solution. The supporters of the hydrate theory claim that the curved figures, representing the properties of solutions of various strengths, show sudden changes of curvature at certain points, which are the same whatever be the property examined, which correspond to the composition of definite hydrates, and which, therefore, can only be explained by the presence of these hydrates in the solutions; while the supporters of the physical theory, now identified with the supporters of the osmotic-pressure theory, claim to have shown that, with weak solutions at any rate, the dissolved substance obeys all the laws which are applicable to gases, and that therefore its molecules must be uninfluenced by, and uncombined with, those of the solvent. With regard to the lowering of the freezing point of a solvent, the following questions were proposed: 1. Is the molecular depression (or that produced as calculated for, 1 molecule dissolved in 100 molecules) constant independent of the nature of the solvent? 2. Is it independent of the strength of the solution so long as this strength does not exceed the limits (gas strength) above mentioned (Boyle's law)? 3. Is it independent of the nature of the dissolved substance (Avogadro's law)? Evidence was adduced involving a negative answer to each of these questions. Objection was taken to the theory of dissociation into ions, on the ground of its irreconcilability with our ideas of the relative stability of various bodies and with the principle of the conservation of energy.

While experimenting on the action of strong light on phosphorus, Prof. A. Pedler has reached the conclusion that the term "amorphous phosphorus" is a distinct misnomer, and that commercial "amorphous" phosphorus is really the same substance as the form called rhombohedral or metallic phosphorus. The slight differences in character noticed between the substances in question are explained by the difference in the state of division and the slight variations conditioned by their mode of formation. Whether the term amorphous phosphorus can be truly applied to the forms made by the action of light is open to doubt. Even in this case there appears to be distinct evidence of crystalline form, although, in some instances, a form which appeared to be amorphous was obtained. The disuse of the term is suggested. The author finds

that when phosphorus is exposed to light in contact with liquids containing oxygen, such as alcohol, it tends to enter into action with them. He further describes experiments which tend to show that red phosphorus is not permanent in air, as is commonly supposed.

The British Association Committee for the investigation of the action of light on the hydracids of the halogens in presence of oxygen have found that the presence of 10 per cent. of hydrochloric acid prevents all decomposition of chlorine water, even after long exposure to sunshine. Aqueous solutions of pure bromine and iodine have been exposed to sunlight for a period of fourteen months. It was found that in a dilute solution of bromine water, as much as 57 per cent. of the total bromide is converted into hydrogen bromide; in a saturated solution, the minimum amount of decomposition occurs, but increase follows further additions of bromine. With iodine water under an atmosphere of carbon dioxide, 8.3 per cent. of the total iodine in the solution was converted into hydrogen iodide. Under an atmosphere of air 14.2 per cent. of the total iodine was converted. Further experiments have been made on the oxidation of gaseous hydrogen bromide in sunlight. The presence of free bromine exercises a retarding influence on the decomposition. The influence of temperature on the oxidation of hydrogen chloride and bromide has been studied. Rise of temperature appears to retard oxidation in the first case and accelerate it in the second.

Reactions which can be started or accelerated by sunlight may be expected to be more active when the rays are concentrated by a concave mirror. Herr Brühl verified this in the production of zinc ethyl from zinc and ethyl iodide, when the reaction, usually difficult to start, was vigorous and complete. A lens would be less effective, since glass obstructs the passage of heat.

The experiments of Prof. H. B. Dixon and J. A. Harker on the rates of explosion of hydrogen and chlorine in the dry and wet states showed that there was no such great difference in the rate as had previously been found by the authors with carbonic-oxide and oxygen mixtures. It thus appeared that in the cases of these substances, the aqueous vapor acts like any other inert gas, making the rate a little slower.

Dr. G. S. Turpin has begun a thorough investigation of the conditions affecting the ignition of explosive mixtures of gases. A paper read by him in the British Association relates to the temperatures of ignition of various mixtures of carbon-disulphide vapor with oxygen and other gases. A discontinuity between gradual combustion and ignition proper is found to exist in some cases, while in others there is a perfect gradation from slow combination, attended by a faint glow, to instantaneous combination, attended by a bright flame. The effect of change of pressure on the ignition was examined and found to be somewhat complex.

Concerning the action of water at high temperatures and great pressures upon wood and cellulose, H. Tauss finds that pure cellulose gives traces of sugar at the ordinary pressure. At higher pressures the quantity of sugar increases, but at twenty atmospheres it is converted into hydrocellulose. Wood is attacked by water at

the ordinary pressure, but the action reaches its maximum at five atmospheres, when beech wood loses 26.7 per cent. of its weight, of which 11 per cent. becomes sugar. There are also produced dextrines, precipitable by alcohol. No vanilline is obtained from the aqueous or ethereal extracts, or from the dried residues.

New Substances.—A new alkaloid, to which the name taxine is applied, has been extracted and isolated by Drs. Hilger and Brande, of Erlangen, from the leaves, seeds, and young shoots of the yew tree. It was obtained after the usual extraction processes as a white powder of extremely bitter taste, which melted at 82° C. On heating the melted taxine partly sublimes as a white cloud which condenses in drops that solidify on cooling. At the same time it evolves a characteristic odor. It is dissolved with difficulty in water, chloroform, and benzene, but readily in alcohol and ether. It forms with acids salts readily soluble in water. Analyses show that its formula is most probably $C_{27}H_{42}O_{10}N$. It belongs to the class of nitrile bases.

A. C. Griffith describes the extraction from the urine in a case of mumps where the parotid and submaxillary glands and kidneys were involved of an alkaloid, or ptonaine, which crystallizes in white prismatic needles that are soluble in water, ether, and chloroform. It has a neutral reaction and a slightly bitter taste, forms a yellow crystalline platinochloride, a pale-yellow aurochloride, and a white crystalline hydrochloride. Its composition gives the formula $C_8H_{12}N_2O_2$, and it is classified as propylglyco cyanine, forming with the glyco, methylglyco, and ethylglyco cyanines a homologous series of oxygenated bases related to the uricides. It is poisonous, producing in a cat nervous excitement, cessation of the salivary flow, convulsions, and death. It is not found in normal urine, and is therefore probably produced during the course of the disease.

A new acid, the first member of a series possessing the generic formula $C_nH_{2n-2}O_n$, derived from the saturated hexa-hydride of benzene, has been isolated by Dr. Ossian Aschan from the natural oil of Baku. It is a stable liquid of strongly acid properties—colorless, thick, of unpleasant and persistent odor, and does not solidify at -10° C. Its strength is indicated by the fact that it readily decomposes calcium chloride, with evolution of hydrochloric acid and the formation of a calcium salt. The potassium, sodium, and calcium salts are described.

A new stannic acid is described by Spring as formed by the action of barium peroxide on stannous chloride. A turbid liquid was obtained from which barium chloride was dialized out by a process requiring three months, leaving, after evaporation of the residual colloidal jelly, a white mass corresponding, on analysis, to the formula $H_2Sn_2O_7$. The author calls it hyperstannic acid, and regards it as proof of the existence of hyperstannic oxide, Sn_2O_5 .

A yellow coloring matter existing in the taigu wood of Paraguay, was described in 1857 by Amoudon, under the name of taiguic acid. A similar matter was extracted by Stein from the green-heart of Surinam, and described by him as greenhartin. These substances were proved by Paterno, in 1879, to be identical with the lapa-

chic acid obtained by Sienert from the lapacho tree of South America; and more recently S. C. Hooker and W. H. Greene have found the same substance in the bethabarra wood of South Africa. Concentrated sulphuric acid forms from it a compound crystallizing in red needles, which has the same percentage composition as lapachic acid. It has been named lapa-chone. It is insoluble in alkaline carbonates, and is soluble in caustic alkalies only after boiling for some time. The properties and constitution of these substances have been investigated by Hooker and Greene and also by Paterno, who will continue the investigation.

A new coloring matter from pyrogallol and benzotrichloride is described by Drs. Doebner and Foerster, of Halle. It is obtained by fusing the two substances at 160° C.; its composition is represented by the empirical formula $C_{18}H_{12}O_{11}$, and it is called pyrogallolbenzein.

A series of derivatives of the unknown trihydrocyanic acid $H_3C_3N_3$ has been prepared by Prof. Krafft and Dr. Von Hausen, of Heidelberg. Tri-cyanogen chloride, $C_3N_3Cl_3$, and the corresponding bromide have long been known, and the radicle C_3N_3 is supposed to exist in the ferro- and ferri-cyanides. The authors, without having isolated the hydride itself, have succeeded in preparing derivatives containing organic radicles instead of hydrogen. Among these are methyl diphenyl tricyanide; the hydrochloride; the platinochloride, in ruby-red crystals; and the ethyl and propyl compounds.

The elementary nature of the earth, Yt, discovered by M. de Marignac and named gadolinium has been denied by Mr. W. Crookes, who holds that it consists of samaria, with the greenish blue of yttria and some of the other yttria bands added to it. M. de Marignac has consequently subjected gadolinium to a fresh analysis. His conclusion, which is sustained by M. de Boisbaudran, is that, although the impurities are not yet entirely eliminated, gadolinium may still be regarded as a new element.

Traces of a new element, X, of Mendeleef's eleventh series, are asserted by Dr. Anton Greenwald to be present in the assumed elements tellurium, antimony, and copper. The new element is on the one hand related to tellurium, and on the other hand very closely to bismuth. It is probably identical with the element of Group VI, Series 11, and having the approximate atomic weight 212, and also with Dr. B. Brauner's aurtiacum recently discovered in tellurium. The author gives the wave length of 16 rays of the new substance observed in the ultra-violet between 2,768.9 and 2,150.7.

A new compound, containing aluminum in a lower state of oxidation, corresponding to ferrous iron, has been obtained by Prof. Hampe-Clausthal. It is a double fluoride of sodium and aluminum, $2NaF \cdot AlF_2$. In appearance it very much resembles cryolite, and must therefore be regarded as sodium aluminous fluoride.

Cuprous oxide is obtained when cupric oxide is heated to redness. It is found by G. H. Bailey and W. B. Hopkins that a further quantity of oxygen is given off at higher temperatures, and an oxide having the composition Cu_2O is formed. This is insoluble in mineral acids, and even in aqua regia, but can be converted into a soluble

form on fusion with caustic potash, from which it separates on treatment with water. The oxides of lead and tin seem to behave at high temperatures in a similar manner.

In a paper on the crystalline allotropic forms of sulphur and selenium, Dr. Muthmann, of Munich, shows that besides the well-known rhombic pyramids and monoclinic prisms, sulphur may, under certain conditions, be obtained in a third crystalline modification, which has been termed by Gernez *soufre naéré*. This third modification has been fully investigated by the author, and in addition a fourth distinct variety has been discovered. The third form is obtained in brilliant tabular crystals after boiling powdered sulphur with alcohol, filtering, and slowly evaporating the alcohol. Similar crystals are obtained after agitating a saturated alcoholic solution of ammonium sulphide with excess of powdered sulphur, and, in about four weeks' time, by allowing solution of acid potassium sulphate slowly to diffuse into a solution of sodium thiosulphate. These crystals are almost white, and exhibit the luster of mother of pearl. The crystals of the fourth form, also monoclinic—resembling a rhombohedron with predominating basal plane—are best obtained by allowing a solution of sulphur in alcoholic ammonium sulphide diluted with four times its volume of alcohol to evaporate at a temperature not exceeding 14° C. Occasionally in this experiment all four forms of sulphur are obtained. Both the third and fourth forms readily change into crystals of the rhombic form. It is an interesting fact that the fourth form of sulphur is isomorphous with the form of selenium obtained by the evaporation of a hot saturated solution in carbon bisulphide.

Four fossil resins from the coals of Kilmarnock and Methill, Scotland, are described by W. Ivison Macadam. They appear in certain brown scales in the coal or in layers, and can be readily detected by the eye. Chloroform was employed as the solvent in the first experiments, but afterwards showed that the material so obtained was partially soluble in ether; and in the later work the author first extracted with ether and then treated the residue with chloroform. In this manner the resinoid substances are divided into two distinct portions. The ether-soluble resins are partially volatile at temperatures much below the boiling point of water, whence the author argues that they are either complex or are broken up at comparatively low temperatures.

A new disinfectant material called "thiocamp," described by Prof. Emerson Reynolds, is based on the liquid which is formed when sulphur-dioxide gas is brought in contact with camphor, in which several powerful substances are dissolved. The mere exposure of the liquid in a thin layer to the air determines the steady evolution of relatively enormous volumes of sulphur-dioxide gas, charged with the vapors of powerful disinfectants. These gases and vapors will in due time be diffused through the whole atmosphere of a well-closed room, and will reach everything contained therein.

New Processes.—A process has been patented by Gerhard Krüss "for decomposing commercial nickel and its salts and galvanically coating objects with pure nickel." In the preliminary part of his specifications the author declares that,

according to his experiments, metallic nickel is not a chemical element, but an alloy containing about 98 per cent. of a metal similar to common nickel, but finer, and about 2 per cent. of an element differing from nickel. The nickel element is for the present designated with Ni and the new element with X. Ni free from X, or nickel in the new sense of the word, is produced from common nickel, nickel salts, or direct from the solutions of the raw materials obtained by concentration smelting, by proceeding according to the different nature of these sources. It is impossible to separate it by one operation, because the combinations of X are soluble in Ni salts, and resist separation from them. It is therefore necessary to perform several operations in succession, or to repeat one of them several times, to obtain pure nickel. The operations, which are described, are derived from certain peculiar properties of the compounds of the element X. The pure nickel obtained according to the author's processes is particularly adapted for galvanically coating objects. While ordinary nickel has a brownish-yellowish hue, derived from the element X, the color of pure nickel, or Ni, is decidedly more like silver.

Benzoates of cellulose have been prepared by C. P. Cross and E. J. Bevan by a process depending on the solubility, in strong solutions of sodium hydrate, of the hydrated modifications of cellulose precipitated from solution in the ammonia copper reagent or zinc bichloride. These derivatives are soluble in glacial acetic acid, whence they are precipitated in voluminous white flocks by the addition of water; and are fusible at high temperatures, with sublimation of benzoic acid if the heat is continued. It is a noteworthy property of them that they are assimilable by micro-organisms—a fact which has special significance in relation to any definitions of cellulose involving resistance to alkalies. Growing plants afford an infinite variety of these hydrates, which will be more or less soluble in alkaline solutions. The cellulose isolated as the residue of processes of oxidation and hydrolysis must therefore be to that extent an arbitrary quantity.

The isolation of fluoroform, CHF_3 , the fluorine analogue of chloroform, CHCl_3 , is described by M. Merlans and by M. Chabrie. M. Merlans prepared it by the action of silver fluoride on iodoform, chloroform, or bromoform, and found it dissolving readily in chloroform and alcohol, but only slightly absorbed by water, decomposed by aqueous or alcoholic potash with formation of fluoride and formate of potassium; and decomposed also on heating in a glass tube with the production of gaseous silicon fluoride and a deposit of carbon. M. Fabrice's process and results are similar to those of M. Merlans.

As a colorimetric method for estimating tannin in barks, etc., Samuel J. Hinsdale forms an "iron mixture" of solution of potassic ferrocyanide and liquor of chloride of iron, and a solution of tannin (pyrogallie acid). Six two-ounce glass tumblers are placed on a white surface. Five drops of the infusion of bark are dropped into one of the tumblers, and into the others 4, 5, 6, 7, and 8 drops of the tannin solution. Then add to each 5 cubic centimetres of "iron mixture"; in one minute add 20 cubic centimetres

of water to each; and within three minutes observe the shades of color. The number of drops of tannin solution used in the tumbler which corresponds in shade of color to the tumbler containing the infusion of bark indicates the percentage of tannin in the bark.

A new process for making bleaching powder and caustic soda has been patented by J. D. Pennock and J. A. Bradburn. In it salt is heated in a still by steam or its equivalent with nitric acid; the resulting gases, nitrosyl chloride and chlorine, are passed through a small vessel containing nitric acid and manganese dioxide, the resultant chlorine being passed through a washer and then to the bleaching-powder chamber. The nitric acid in the sodium nitrate is recovered by furnacing with oxide of iron, and the mixture is lixiviated to recover caustic soda; the manganese nitrate is recovered by heat, and the manganese dioxide is used over again.

A new and very simple method of producing indigo by synthesis is described by Dr. Flimm, of Darmstadt. The principal step is the fusion of the monobromine derivative of acetanilide, $C_6H_5NH.CO.CH_2Br$, with a caustic alkali. The indigo is separated by dissolving the product in water and adding a little ammonia or ammonium-chloride solution, or by dissolving the fused mass in dilute hydrochloric acid and adding a little ferric chloride.

In his later experiments on fluorine, M. Moissan has prepared the gas in larger quantity and a greater state of purity, and has determined some of its physical properties. By its properties and its atomic weight it belongs at the head of the chlorine family (F, Cl, Br, and I). When looked at in considerable thickness and against a white background, it appears of a greenish-yellow color, fainter than that of chlorine at the same depth, and more yellowish. A small quantity of water introduced into the tube containing fluorine is decomposed, with formation of hydrofluoric acid and ozone.

Phosphorus trifluoride has been obtained by M. Moissan by heating a mixture of lead fluoride and copper phosphide, and by the action of arsenic trifluoride upon phosphorus trichloride; but gently warming a mixture of zinc fluoride and phosphorus tribromide has been found a more convenient process. The gas possesses a very sharp odor, but does not fume in the air. It is very slowly absorbed by water, but is decomposed immediately by the solution of chromic acid or of potassium permanganate. Its density as determined by M. Moissan is 3.03, while its calculated density is 3.08. When a measured quantity of the gas is heated over mercury in a closed glass vessel, it is decomposed by the silica of the glass, and the volume is diminished by one fourth, four molecules of PF_3 becoming converted into three molecules of gaseous silicon tetrafluoride, SiF_4 .

In a paper on the spontaneously inflammable liquid hydride of phosphorus, P_2H_4 , Drs. Gattermann and Haussknecht, of Heidelberg, describe an improved method of preparing the substance from phosphide of calcium, by which it is obtained almost perfectly pure, and add considerably to knowledge of its properties. Liquid P_2H_4 boils spontaneously and without decomposition when not suddenly heated, at $58^\circ C$,

under a pressure of 553 mm. Its specific gravity at $12^\circ C$. is 1.007. Exposed to sunlight it becomes yellow in half an hour, a result of the formation of P_4H_6 , which remains at first dissolved. After two or three hours of exposure, the yellow solid begins to separate, and in about a day and a half total decomposition takes place, in accordance with the equation $5P_2H_4 = 6PH_3 + P_4H_6$. In consequence of this property sealed tubes containing the substance exposed in daylight are very dangerous articles. The accumulation of PH_3 makes them liable to explode with a deafening concussion and the production of a wide-spreading and very brilliant flame.

A method of detection of adulteration in essential oils by determinations of specific gravity at $60^\circ F$, potash absorption, iodine absorption, and boiling point, is described by Rowland Williams, who has found it satisfactory in the case of some 60 specimens, representing 26 of the most important essential oils occurring in commerce. The importance of having a trustworthy test is illustrated by the fact that one of the cheapest of the essential oils—citronelle—is largely sophisticated with kerosene. "What, then, must be the case with some of the more expensive oils, the cost of which is enormous, when compared with that of citronelle?"

It is suggested by Edward W. Morley that hydrogen as prepared by all the ordinary processes almost inevitably contains impurities, the most important being carbon, which are liable to affect determinations of its specific gravity and atomic weight. If all impurities but nitrogen are removed, the residual nitrogen can be determined, although with some manipulative difficulty. The author has succeeded in obtaining hydrogen in which there is no carbon, no sulphur, and, he believes, no oxygen, and in which the quantity of remaining nitrogen is very minute.

In M. Moissan's new method of preparing fluorine, fluoride of platinum is first obtained by introducing a bundle of wires of the metal into a thick platinum or fluor-spar tube, through which a current of fluorine gas from the electrolysis apparatus is passed. The wires are converted to fluoride by heating to redness, and are then quickly transferred to a dry stoppered bottle. When the anhydrous fluoride is heated to bright redness in a platinum tube closed at one end fluorine is evolved as a gas. The residual platinum will consist of crystals of the metal. The fluoride of platinum formed in the earlier part of the process is exceedingly hygroscopic, and with water forms hydrated platonic oxide and free hydrofluoric acid. M. Moissan has also prepared in the same manner a fluoride of gold, which is likewise very hygroscopic and decomposable by water, and yields gaseous fluorine on being heated to redness.

A. A. Breneman gives the following method of obtaining opaque soap bubbles for gas experiment: Two flasks, arranged like gas-washing bottles and tied together so as to be handled as one, are filled to a measured depth with strong NH_3 and HNO_3 respectively. The long tube of each bottle reaches nearly to the surface of the liquid, but does not touch it; the short tube ends just below the respective stoppers. On forcing any gas first through the long tube into the bottle containing HNO_3 , and from that

through the connecting tube against the surface of the NH_3 solution in the other flask, dense white fumes of NH_3 , NO_2 , are produced, and bubbles may be blown with the gas from the second bottle. Such bubbles are more readily visible by daylight or gas light, and are more satisfactory for use before large audiences.

A method for detecting and determining sophistication of linseed oil by resin oil, given by M. A. Aignan, depends upon the fact as substantiated by the author that pure linseed oil has no rotatory power, while resin oil and mixtures of resin oil with linseed turn the plane of polarization to the right in proportion to the quantity of resin oil contained. A formula is given for the quantitative estimation of the adulteration.

L. Prunier has devised a process for making a simultaneous determination of carbon and sulphur in organic substances which he finds to be more manageable, expeditious, and accurate than the old one of two separate determinations.

Atomic Weights.—The atomic weight of tellurium, as determined thus far, appears to be greater than that of iodine, though the results obtained by different investigators vary between wide limits (126.39 by Wills to 129.9 by Berzelius). But from the arrangement of the elements according to the periodic system we should expect tellurium to fall in the same family as sulphur and selenium, and therefore to have an atomic weight between that of antimony and that of iodine, or of about 123.5. Prof. B. Brauner undertook an investigation in order to make a revision of the atomic weight of the substance. The results of various methods tried were very discordant, and ranged from 124.6 to 129.63. They seemed, however, to give one rule of variation, and showed that "if tellurium, obtained by any process of fractionation whatever, be subjected to distillation in a current of hydrogen, and the tetrabromide be prepared from this by sublimation in a vacuum, its analysis always gives the same atomic weight for tellurium. If, however, the tellurium be only fused in a current of an indifferent gas and the tetrabromide be not sublimed higher numbers will be obtained." From the widely divergent results obtained by the different methods the author concludes that tellurium is not a simple substance.

In a paper on the molecular weights of metals when in solution, C. T. Heycock and F. H. Neville give the results of their observations on the effect of various proportions of silver, gold, copper, nickel, sodium, palladium, magnesium, zinc, lead, cadmium, mercury, bismuth, calcium, indium, aluminum, and antimony on the solidifying point of tin. Of all these metals, antimony alone behaves abnormally, producing a rise instead of a depression in the solidifying point. In the majority of cases the atomic depression is a number not far removed from 3, the theoretical value calculated from Van't Hoff's formula. Assuming the truth of Raoult's generalization, that the depression produced by a molecular proportion of any substance in the solidifying point of the same solvent is the same whatever the substance, it would therefore seem probable that the molecules of most metals are of the same type, M_n , when n is the number of atoms in the molecule; and if it be supposed that the

molecules of zinc, for example, when dissolved in tin are monatomic, as in the gaseous state, it would follow that n is unity in the case of many other metals. In the case of aluminum, the atomic depression is so nearly half the average value that it seems probable that the molecule is diatomic. Indium resembles aluminum in producing an abnormally low depression, and the value for mercury is also distinctly low.

The atomic weight of gold has been estimated by Prof. J. W. Mallet in seven series of experiments, the mean of which gives 196.910. Throwing out three of the series as less entitled to confidence than the others, the mean given by the remaining four series is 196.796. Again, taking the first three series, in which auric chloride and bromide were examined, as more comparable with the results obtained by Krüss and Thorpe and Laurie, the mean is 196.762. The result agrees well with the place occupied by gold in Mendeleef's periodic classification; and, as regards the hypothesis of Prout, either of the means approaches closely to the integer 197. The work, however, furnishes evidence to the author that not all inherent defects of method have been eliminated.

To determine the atomic weight of magnesium, W. M. Burton and L. D. Vorce prepared the nitrate of a weighted portion of the distilled metal, and ignited it to the oxide. The result of the experiment gave ($O=16$) $Mg=24.287$. The author also studied the crystals of the metal, which indicated a closer relation to beryllium than to zinc.

The atomic weight of bismuth has been determined by Alex. Classen, $O=16$, as 208.89830.

Chemical Analyses.—In Dr. G. H. Bailey's and J. C. Cain's method of quantitative analysis by weighing precipitates suspended in liquids, the operations of filtering and washing are done away with. The specific gravity of the precipitate having been determined, it is weighed, together with the supernatant liquid, in a specially constructed measuring flask. The specific gravity of the supernatant liquid can be readily determined, and hence the weight of the precipitate calculated. The method is rapid, and gives results of sufficient accuracy for many technical purposes.

The analysis of seeds and plants is usually accompanied by a large percentage residue of undetermined matter, the mass of which, excluding a few imperfectly understood albumens, is usually designated as nitrogen-free extract matter. Prof. E. Schulze and Dr. E. Steiger found in the matter of this class in the seeds of *Lupinus luteus* an insoluble carbohydrate which yielded a sugar named *para-galactin* that exhibited the properties of galactose. Mr. W. Maxwell found in the residues of *Faba vulgaris*, *Vicia sativa*, and *Pisum sativum*, matters convertible into sugar, usually galactose. Other carbohydrates, in addition to the galactose-yielding body, appear to be contained in the seeds. The relative amounts of the insoluble carbohydrate residues and the proportions of galactose-convertible substance contained in them varied in the different species of legumes. The main result of the researches is the finding of a more intelligible and scientific expression for all that portion of the constituent matter of seeds which has hitherto been regarded

as a non-nitrogenous, valueless residue and the indication of what may be their function in the physiology of the plant.

Prof. E. W. Morley described at the American Association his investigations of the volumetric composition of water, together with the apparatus employed and the results. The apparatus, with 300 feet of glass tubing, occupying parts of two rooms, includes provision for producing hydrogen, arrangements for purifying it, a globe in which part is collected to be weighed, another where the gas is stored for analysis, and three other parts in which the analysis is made. In a second apparatus, identical with the first, the volumes in which hydrogen and oxygen are made to combine are measured, and the remaining excess is determined. From this was computed the ratio of combination in 20 determinations. The minimum value was found to be 2.00005, the maximum 2.00047, and the mean 2.00023, with a probable error of determination of one part in 30,000. In a second paper, on the ratio of the density of oxygen and hydrogen, Prof. Morley said he had made two determinations of the specific gravity of hydrogen, and reached the same figure for the ratio as that given by Lord Rayleigh, in England, namely, 15.884. This value, combined with the preceding, gave 15.882 as the atomic weight of oxygen.

Prof. Noyes narrated the results of four series of six determinations each of the atomic weight of oxygen, with apparatus devised by himself. He had found the value to be 15.896.

The seed of *Calycanthus glaucus* is found, by the analysis of H. W. Wiley, to be rich in oily albumenoids and sugar (of which it contains twice as much as wheat), and poor in starch and undetermined substances. The oil has a beautiful faint-yellow color and a peculiar odor. The seed also contains a poisonous alkaloid, which Dr. R. G. Eccles, of Brooklyn, has named calycanthine. Attention was called to the poisonous property of the seed by a letter from Mr. J. H. H. Boyd, of Cagle, Tenn., relating how cattle and sheep had been fatally poisoned by eating the fruit of the shrub. The symptoms of the poisoning resemble those of drunkenness, with extreme nervousness. Sometimes the fatal issue is immediate, sometimes it is delayed for three or four weeks. The alkaloid is not very virulent, is slightly soluble in water and very soluble in ether and chloroform, while its salts are insoluble in chloroform but very soluble in water. It crystallizes from ether in feathery masses, which form very rapidly.

The results of systematic examinations by G. J. Fowler and J. Grant of the influence of the chief metallic oxides and certain unstable salts on the decomposition of potassium chlorate by heat may be summarized as follows: 1. Acid oxides, such as V_2O_5 , WO_3 , and V_2O_4 , cause the evolution of oxygen at a much reduced temperature, with the formation of a metavanadate, tungstate, or nirate. Chlorine is evolved in large quantity in these cases, but the whole of the oxygen of the chlorate is not liberated. 2. Alumina acts in a similar way, but less energetically. 3. Chromium sesquioxide causes the evolution of oxygen at a lower temperature, with the liberation also of chlorine. 4. The sesquioxides of iron, cobalt and nickel, cupric oxide,

and manganese dioxide cause the evolution of oxygen at a comparatively low temperature, accompanied by only a small percentage of chlorine, while the oxide is left but little altered at the end of the experiment. 5. The monoxides of barium, calcium, and lead cause no evolution of oxygen when heated with potassium chlorate, but the latter breaks up below its normal temperature with the formation of potassium chloride and a peroxide. 6. In the presence of such oxides as silver oxide and the peroxides of barium and lead, potassium chlorate acts as a reducing agent. No oxygen is eliminated, but a perchlorate is formed. 7. Oxides, such as those of zinc and magnesium, are inactive. The authors find that the physical condition of the oxide is of importance—thus copper prepared in the dry way is almost inactive; and further, that certain substances, such as powdered glass, sand, and kaolin, assist the decomposition, although they apparently undergo no chemical change.

Practically three methods are now available for the determination of lithia in mineral waters; the phosphate method (Mayer's modification); the amylalcohol method of Gooch; and the fluoride method of Carnot. Bammelsberg's method is somewhat similar to that of Gooch, but has not proved very satisfactory in its application. For all of these processes it is necessary to obtain from some known quantity of the water the alkalies as chlorides free from admixture with other bases, and in most cases a considerable proportion of the sodium and potassium salts, which usually predominate over those of lithium, must be removed. In order to test these methods upon water containing lithia, samples of the best known and widely advertised waters were purchased by E. Waller and submitted to examination. The results were somewhat surprising, and indicate that either the original analysis, on the strength of which the waters are sold, was erroneous, or, what is more probable, that the proportions of lithium in those waters are liable to great fluctuations. The results were chiefly obtained by Carnot's fluoride method, but were in several cases confirmed by the use of other methods. In the Farmville lithia water no lithium could be detected by the spectroscopic in moderate amounts, and only traces in larger amounts. The reaction for lithium in Buffalo water in considerable quantities was more distinct. In the Londonderry water the lithia reaction could be obtained without great difficulty. Of all the waters examined, purporting to be natural, the Saratoga Hathorn proved to be the strongest in lithia. The lithia waters manufactured and sold by Carl H. Schultz were found to contain a little more lithia than was claimed for them.

The following tests are given by M. M. Grandval and Valser for the detection of linoleic acid in oleic acid. The falsified acid is of a yellowish-brown tint, paler than that of oleic acid; its specific gravity is higher. The liquid is more consistent, and is not homogeneous, but gritty. If falsified oleic acid is heated to 50° C., it takes, when cold, a firmer condition, which becomes more decided each time the operation is repeated. A mirror-like precipitate is produced on shaking with alcohol, while oleic acid dissolves. If mineral oil, resin, or paraffin is mixed

with oleic acid there is also formed a deposit insoluble in alcohol. If a thin layer of the falsified oleic acid is placed upon a slip of lead, scraped clean, and some pure oleic acid is placed upon a similar slip of lead for comparison, the impure acid will, on the next day, be more or less resinified, while the pure acid will be hardly altered. If some drops of falsified oleic acid are mixed with an equal volume of soda-lye, an intense yellow color is produced, while pure oleic acid, similarly treated, merely takes a grayish tint.

For the detection of tin in minerals, Alexander Johnstone cuts out the small beads of metal which settle to the bottom of the assay on treatment with the white flux or fusion mixture of Fresenius; and having pulverized it and washed it, treats the remaining silver-like malleable scales of metal with boiling concentrated hydrochloric acid and solution of gold chloride. If the white scales are wholly or partly composed of tin, the bottom of the mortar will receive a distinct purple stain by the formation of the purple of Cassius. As an additional test, a current of sulphuretted hydrogen may be projected upon the moist stained bottom of the mortar, when a skin of brown stannous sulphuride will be formed.

Chemical Synthesis.—Prof. Emil Fisher's researches on the sugars of the glucose group have been remarkably successful. Several months ago he prepared a new synthetical sugar, which he called *acrose*, and found to be an isomer of dextrose and levulose. He has now succeeded in determining the constitution of *acrose*, and has shown that it is the inactive modification of levulose. He has also effected the synthesis of levulose; has discovered the inactive and the *levo*-modifications of mannite and of the new sugar mannose; has shown that mannose and dextrose have the same constitution, and that one may be converted into the other; has prepared all these substances synthetically; and has developed and perfected the methods of transforming the sugars and their derivatives into one another to such an extent that the synthesis of the remaining members of the glucose group will probably be effected in the near future.

The synthesis of indigo from monobromacetanilide, by W. Flimm, is the first that has been accomplished from a mono-substitution product of benzol. If monobromacetanilide is melted with dry caustic alkali, a fused mass is obtained, the solution of which in water soon turns blue and separates indigo; aniline and isocyanophenyl are also formed. The yield is small, being not more than 4 per cent. of the anilide used.

Urea chloride has been used by Gattermann, Schmidt, and Harris, reacting with aromatic hydrocarbons and phenylethers in the presence of aluminum chloride to effect the synthesis of carbo acids. The urea chloride was formed from phosgene and ammonium chloride. The method is inconvenient, on account of the large quantities of liquid phosgene it requires. To avoid this inconvenience, L. Gattermann and A. Rossolymow use cyanic acid and hydrochloric acid, two substances into which urea chloride dissociates at the high temperatures at which the syntheses are performed.

Pyrazol, $C_4H_4N_2$, the fundamental base of a rapidly growing series of compounds, has been synthesized by Prof. Balbiano, of Messina, from epichlorhydrin and the recently isolated hydrazin hydrate. It is obtained as a mass of hard, colorless needles. The crystals are readily soluble in cold water, with production of neutral solution, possess an odor similar to that of pyridine, melt into a colorless liquid at from 65.3° to 70° , while the liquid boils at from 186° to $188^\circ C$.

Organic Chemistry.—The gums yield, when subjected to hydrolytic action, glucose-like bodies which, when carefully studied, have usually been identified as either galactose or arabinose. Gum arabic sometimes yields galactose and sometimes arabinose, but it is not clear whether this is a specific characteristic of a distinct gum, or whether there may not be gums of different origins sold under the one name. The gum exuding from the bark of a cherry tree and tragacanth gum yield arabinose. The mucilage occurring in the seed coats of linseed, quince seeds, etc., yields glucoses which have not been satisfactorily identified. A gum-like substance which can be extracted from liquefied tissues by alkalis yields xylose. The gum exuding from the bark and the fruit of peach trees has been examined by W. E. Stone. That from the fruit was much the clearer in color and the purer. It is soluble in water, by which it is first swollen to a marked degree, and in solution it showed a slightly acid reaction and a distinct, although not strong, *levo*-rotation. The results of the first steps in the analysis indicated the presence of those substances which yield arabinose and galactose on hydrolysis. The continued investigation for the purpose of isolating and identifying these substances gave, from the bark gum, two products—one with specific rotation 102.3° , which approximated closely to that of arabinose (104°), and a second with a specific rotation 82.09° , which is practically that of glucose. Two products identical with these were also obtained from the fruit gum. This analysis was confirmed by further tests.

In a paper on "The Occurrence of the Pentaglucooses," read in the American Association, the same author reported concerning his examinations of forty vegetable products, selected with a view of obtaining as great a variety as possible for the detection of arabinose and xylose. In thirty-two of these substances from 1 to 12 per cent. of the pentaglucooses, or bodies from which they are derived, were recognized. They were even found in the excrement of domestic animals, showing the operation of some degree of digestive action there. The existence of a class of compounds not commonly recognized in foods is indicated. In another paper by Prof. Stone arabinose was found to have a stronger reducing effect upon Fehling's solution than any other known sugar. A third paper by the same author developed a method for the quantitative determination of pentaglucooses in food stuffs.

In the analysis of seeds, all that part of their non-nitrogenous constituents which is soluble in water, and which upon boiling with a dilute acid becomes converted into bodies capable of reducing an alkali-copper solution, has been expressed as dextrine. W. Maxwell considers that

more definite determinations will be of interest. In a course of the study of the legumes *Pisum sativum*, *Faba vulgaris*, and *Vicia sativa*, he discovered cane-sugar in each of those representatives. In addition to saccharose, the seeds contained a white amorphous body, which was distinguished chemically from dextrine by the instance that upon boiling with a dilute mineral acid it yielded galactose; and further, when the body was heated with concentrated nitric acid mucic acid was obtained as the product of oxidation. Separate experiments were made with *Phaseolus vulgaris*, which was proved to contain soluble carbohydrates to the extent of 5.36 per cent. A quantitative separation of the cane-sugar, galactan, and dextrine was not attempted. A method which would render anything more than qualitative indications of those several bodies does not at present exist. When it is known that these soluble carbohydrates are contained in mature seeds, the question occurs as to what are the physiological uses of those bodies in relation to the life of the embryo plant during the stage of incipient growth? Preliminary observations made with seeds of *Phaseolus vulgaris* indicated that 32 per cent. of the carbohydrates were used up by the embryo plant in the earliest period of its development, or during the short time which was necessary for the protrusion of the radicle, and before the plumule made its appearance.

The investigations of Prof. Frederick B. Power lead him to the conclusion that the natural oil of wintergreen consists of methyl salicylate, with small amounts of a terpene, which is yellowish, has an odor resembling that of black pepper, and deviates the ray of polarized light to the left; and that the oil of birch when pure consists simply of methyl salicylate, and is without action on polarized light. The natural oils of wintergreen and birch are therefore neither physically nor chemically identical, although the differences are practically very slight.

In a paper summarizing our present knowledge of the rare earths, M. E. Demarçay admits that the radiant-matter test of Mr. Crookes is more sensitive than the reversion process of M. de Boisbaudran. He regards the red phosphorescence of aluminum as due to traces of chrome, and the phosphorescence of yttria as in like manner occasioned by traces of foreign matter rather than by the presence of a number of distinct elements. He contests the hypothesis of meta elements, and concludes that in the group of rare earths we have to do not with exceptional bodies, but with bodies which our ordinary methods are not able to separate. He refers to the observation of Bunsen and Becquerel that salts present variable absorptions according to the directions taken by the luminous rays in a crystal. The researches of MM. Krüss and Nilson are unfavorably criticised; Mr. Crookes declares that he has obtained results contradictory to theirs, and M. Demarçay confirms the results of Mr. Crookes. The groups of rare earths seen to the author likely to be the means of an important progress in our classification of the simple bodies.

The committee of the British Association on isomeric naphthalene derivatives says, in its fifth report, that a complete set of reference compounds has been prepared in the disubstituted

series. It is found that although thirteen dichlor naphthalenes have been described, only ten exist. Of the fourteen possible tri-derivatives, thirteen are known. Light has been thrown by these researches on the mode of action of reagents on naphthalene and other hydrocarbons, and it appears that in all cases the initial action is the same, while the ultimate product depends on secondary causes; thus, in the case of benzene an ortho-compound is always first obtained, and meta and para compounds are produced in a secondary way. The influence of structure on the coloring properties of naphthalene derivatives has also been studied in connection with these researches.

According to the theory of Van 'tHoff and Wislicenus, the di-halogen additive compounds of acetylene can exist in two isomeric forms. To one of the classes thus indicated fumaric acid appears to be related, and to the other its isomer maleic acid. The fact suggested to E. H. Keiser that it might be of interest, starting with acetylene, to prepare two isomeric di-halogen compounds, and then endeavor to transform them into fumaric and maleic acids. The isomeric iodides of acetylene, one of which is solid and the other liquid, were accordingly prepared. On experiment, fumaric acid was formed from the solid di-iodide.

Some crystalline substances found in the solid matters which are deposited from freshly extracted oils of limes, lemons, and bergamot, made by hand, are described by Prof. W. A. Tilden and Mr. C. R. Beck. Limettin, obtained from oil of limes, has the composition $C_{12}H_{14}O_6$, crystallizes in tufts of needles, melting at between 121° and 132° C., and is neither an acid nor a glucoside. Essence of lemons yields a substance, $C_{12}H_{14}O_6$, similar to limettin in appearance, but with more lustrous crystals, which melt at 116° C. Bergamot yields a compound that crystallizes in colorless prisms and melts at 270° — 271° C.

In communicating to the Chemical Society of London their studies on the constitution of the tri-derivatives of naphthalene, Prof. H. E. Armstrong and W. P. Wynne, besides the theoretical importance of the studies, called attention to the necessity of ascertaining the constitution of those of them which are employed technically in the manufacture of azo-dyes, in order that the dependence of color and tinctorial properties on structure may be determined; this is especially the case, because all the tri-derivatives are not equally valuable.

Agricultural Chemistry.—Experiments by Prof. A. Petermann, of Gembloux, Belgium, concerning the relation of atmospheric nitrogen to plant growth, have given results of which the following is a summary: In growing plants of yellow lupines in sand containing bacteria of the soil, but poor in nutritive elements, an important gain in nitrogen was observed and ascribed to the intervention of atmospheric nitrogen; this gain increased with the quantity of organic substance produced. Contrary to the opinion of some authors, the experiments proved that the lupines absorb and assimilate (that is utilize for the production of organic substance) nitrogen, which is furnished in the form of a fertilizer; the nodes of the roots of lupines were sensibly

richer in nitrogen than the rest of the plant, particularly in those experiments which showed an increase of nitrogen. But this observation can not be used to support the hypothesis according to which the presence of nodosities or microbes inhabiting the same should be the exclusive cause of the assimilation of nitrogen, because the increase of nitrogen was noticeable in the soil as well as in the plants, and because the gain of nitrogen by enrichment of the soil was obtained in the culture of plants which did not possess nodosities on the roots; and the pure culture proved the identity of micro-organisms of the soil in which the lupines grew with those occurring in the nodosities of the root of the plant. The author therefore answers the question of the intervention of nitrogen in plant growth in the affirmative.

The earlier results obtained at Rothamsted, as well as those of Boussingault, respecting the sources of the nitrogen of vegetation under conditions in which the action of electricity and of microbes was excluded led Messrs. Gilbert and Lawes to conclude that the higher chlorophyllous plants have not the power of taking up nitrogen by their leaves or otherwise; and that atmospheric nitrogen is not a source of nitrogen in the case of graminaceous, cruciferous, chenopodiaceous, or solanaceous crops, but that there was not sufficient evidence to account for the whole of the nitrogen taken up by leguminous plants. Of the recent researches, those of Hellriegel and Wilfarth, first published in 1886, were the most conclusive. They tend to show that free nitrogen is fixed under the influence of a microbe-seeding of the soil, with a resultant formation of nodules on the roots. Experiments by the authors in the seasons of 1888-'89, with several species of leguminous plants, confirmed these conclusions. Concurrently with the experiments made at Rothamsted, M. Bréal, of the Muséum d'Histoire Naturelle, in Paris, made various experiments with similar results. Hellriegel agrees with the authors that the *leguminosæ* utilize soil nitrogen. He considers that the soil would be drawn upon first, and that this source is supplemented by the elementary nitrogen of the air, brought into combination by means of the organisms; he also considers that there would be more or less fixation, even with a soil rich in nitrogen. On the other hand, Vines found that the formation of tubercles, and presumably also the fixation of free nitrogen, is much reduced, or even stopped altogether, by the application of much nitrogen to the soil; and the Rothamsted experiments indicate that with a rich garden soil there are fewer nodules formed than with a sand containing but little nitrogen, and seeded with soil organisms. If subsequent experiments should show this to be the case, the amount of nitrogen of a crop derived from the air and the amount derived from a soil would vary very much according to circumstances; fixation would take place most freely in the case of a sandy or poor and porous soil, and less in a richer soil. On the whole, the evidence at command points to the conclusion that in the case of most, if not all our leguminous crops, more or less of their nitrogen is due to fixation under the conditions suggested.

The product which is designated in fodder

analysis as ether extract is very crude, being mixed with extraneous impurities which the chemist has been much embarrassed to get rid of. H. J. Patterson has successfully used animal charcoal to obviate this difficulty, and has obtained as products pure fats, and in many cases nearly pure vegetable oil. In filling the percolator tube for the execution of his process, he has first placed in it animal charcoal; on top of this a plug of cotton; then the substance to be extracted; and finally another plug of cotton. The cotton serves to make a more uniform stream of ether over the substance, and keeps the latter from crawling up the sides of the percolator. The plug between the substance and the charcoal will prevent any of the fat coming in contact with the charcoal before it is thoroughly in solution. In other respects Mr. Patterson's method is like that of the Association of Official Agricultural Chemists. The following points are claimed in favor of the use of animal charcoal: 1. That the product obtained is nearly pure fat or vegetable oil; 2. That it gives a more correct idea of the physical nature of the fats from various substances; 3. That slight quantities of water that may exist in the substance and pass out with the extract will be removed by the charcoal; 4. That soluble acids of the plant, or acids which may be formed during distillation, will be partially, if not wholly, removed by the animal charcoal; and 5. That the animal charcoal will partially obviate, if not wholly remove, the difficulty of change in the amount of ether extract (which generally increases) with the aging of the sample.

The richness of the truffle in phosphoric acid, lime, and magnesia, according to M. Ad. Chatin, is remarkable in comparison with the poverty of the soils. Six elements—nitrogen, phosphorus, potassa, lime, iron, and sulphur—appear characteristic of the truffle. The author concludes that the nitrogen is derived in great part from the air confined in the soil. Phosphoric acid forms a mean of more than 50 per cent. of the ash of the truffle, and it is closely followed by potassa. Lime forms from 7 to 8 per cent. of the ash, whether the earth contains 50 per cent. of calcareous matter or hardly 1 per cent. The proportion of iron oxide is about 5 per cent. Soda is present to about 1 per cent., and rises in some cases to 6 per cent. Magnesia rises and falls along with the soda. Manganese, chlorine, and iodine are present in all truffles.

The results of an investigation of the saccharine substance of the sweet potato by W. E. Stone show that it exists chiefly, if not entirely, in the form of sucrose. The quantitative determinations showed from $1\frac{1}{2}$ to $2\frac{1}{2}$ half per cent. of sucrose in the fresh potatoes. The temperature of cooking (baking) inverts the sucrose, and converts more or less of the starch into a soluble form.

Miscellaneous.—In the spontaneous combustion of coal the carbon, hydrocarbons, and pyrites—all the constituents, in fact, except minerals other than pyrites—are found by Mr. Vivian B. Lewes to take a part. Carbon possesses to an extraordinary degree the power of attracting and absorbing gases upon its surface, which is increased as its surface is increased by division. The absorption, at first purely mechanical, event-

usually causes a rise in temperature. If the coal is finely powdered, the absorbing and heating powers become very important, while the rate of action increases as the temperature rises, but is rarely sufficient to bring about spontaneous ignition. When the carbon of the coal absorbs oxygen the compressed gas becomes very active chemically and soon begins to combine with the carbon and hydrogen of the bituminous portions of the coal; the chemical activity increases with the temperature, and is accompanied by a further increase of heat. The effects work cumulatively upon one another, and if the access of air is free enough, the temperature reaches the igniting point of the coal. The result is hastened by the presence of pyrites in the coal, which is also acted upon chemically by oxygen; but pyrites is not itself capable of causing combustion. The liability to spontaneous ignition of coal in ships increases with the increase of tonnage in cargoes; with the length of the voyage, particularly if it is prosecuted into warm regions; and is affected by the kind of coal, some coals being more liable than others to spontaneous heating and ignition; by the fineness of the division of the coal; by wetting combined with richness in pyrites; by the ventilation of the cargo; and by heat from the furnaces and boilers. The author's paper concludes with a summary of the precautions that may be taken against the heating of coal in cargo.

Previous to the formation of the classification of the elements with which the names of Newlands and Mendeleeff are associated, numerical relations between the atomic weights of allied elements were discovered by Dobereiner, Dumas, and other chemists. It is now shown by Mr. P. J. Hartog, in "Nature," that M. A. E. Béguyer de Chancourtois, a French geologist, was the first to publish a list of all the known elements in the order of their atomic weights. In a communication to the French Academy in April, 1862, he described "a natural classification of the simple bodies and radicles by a table in the form of a helix, founded on the use of numbers, which I call characteristic numbers or numerical characteristics." These numbers were deduced from the measurement of the chemical equivalents of the bodies; when arranged on his helical table, or on a plane surface representing it, they gave what he called characteristic points or geometrical characters. He then announced as the fundamental theorem of his system that "the relations between the properties of different bodies are manifested by simple geometrical relations between the positions of their characteristic points"; and that likenesses and differences are manifested by a certain numerical order in the succession of bodies, "for example, immediate sequence or alternation at various periods." The subject was further pursued in a memoir communicated in March, 1863. The papers have not been printed in full. Newlands's first paper on the numerical differences between the atomic weights of allied elements was published in February, 1863; and his second, in which he arranged the elements in the order of their atomic weights, in July, 1864.

Baking powders consist essentially of a carbonate or bicarbonate to supply carbonic-acid gas, and an acid which can liberate it, with some

inert substance, usually starch, to temper the chemical action. They may be classified as follows according to their acid constituents, with which bicarbonate of soda is usually associated: Tartrate powders, in which tartaric acid is the acid constituent, and which leave the least objectionable residue; phosphate powders, in which mono-calcium phosphate furnishes the acid, and with which the residues, though larger in quantity, are not otherwise more objectionable than those of the tartrate powders; and alum powders, in which the gas is set free by the action of either potassium or ammonium alum. The effect of the residues from these on the human system has not been determined. In general, it may be said of the three classes of powders, that a tartrate powder gives the lowest percentage of carbon dioxide in proportion to the weight of chemicals used, together with the least weight of residue; and a straight alum powder gives the highest proportion of gas and greatest weight of residue. The report of the chemical division of the Agricultural Department suggests that with a little care baking powders could be made at home at much less cost than the market price.

The results of the many determinations that have been made of the alkaloid in teas are regarded by David Hooper, of Ootacamund, India, as showing that no relation exists between the amount present and the commercial value of the leaf. The tannin of tea has also been investigated, but as the subject has been treated by so many experts, using different methods and applying them to different samples, the results are not comparable, and leave the matter open for further inquiry. From analyses of sixty-five specimens of Indian and Ceylon teas, Mr. Hooper finds that the finest teas are those which contain the most tannin, and that the elevation does not appear to affect the amount of tannin, as has been supposed. The determinations of two of the specimens indicate that the kind of shrub cultivated in India contains more or less tannin according to its original habitat. The amounts of tannin shown in Mr. Hooper's list are obtained by perfectly exhausting the leaves, and do not represent the amount taken in domestic use. The infusion of the family tea-pot extracts more or less tannin, according to the sample used and the time allowed for the leaves to soak in boiling water. The broker's test of five minutes takes out one fifth of the extract, with a corresponding amount of tannin. The tea-pot infusion of ten minutes removes about one third, fifteen minutes one half, and twenty minutes two thirds. The tannin is the source of the "strength" of the tea, and the higher the tannin the richer the infusion, and the more of body will the sample possess. Tannin is likewise a natural constituent of the tea, and is not amenable to suppression by higher cultivation, or by the ordinary processes of manufacture.

The results of an examination of the cuticular constituents of flax fiber have been published by C. F. Cross and E. J. Bevan. On exhaustion with boiling alcohol, the fiber lost from 3 to 4 per cent. of its weight; in cooling the solution deposited a greenish-white resin, which yielded, on hydrolysis with alcoholic soda, a wax alcohol, identified as ceryl-alcohol, and a ketone-like

substance. From the unresolved residue, on treatment with alkalis, two fatty acids were obtained, one of which appeared to be cerotic acid. The green filtrate from the resin-wax yielded on distillation a green, oily residue. From this a further quantity of ceryl alcohol was isolated, and a larger proportion of the oily ketone. The residue was a complex of inert compounds, which yielded ketones on hydrolysis. These ketones have the characteristic odor of raw flax and flax goods, and from their property of emulsifying with water, no doubt exercise an important influence on the wet processes of fine spinning of flax. The pectic group of constituents associated with the cellulose in the fiber proper, on oxidation with nitric acid yielded mucine. The isolation of pure cellulose from flax is a difficult operation.

CHILI, a republic in South America. The executive power is lodged in the hands of a President, who is chosen for five years by an electoral college, and is not re-eligible. The legislative power is vested in the National Congress, consisting of the Senate, the members of which are elected for six years, and the Chamber of Deputies, elected for three years in the proportion of one Deputy to 30,000 of population, under the law of Aug. 9, 1888. The members of both houses are elected directly by the same restricted suffrage. There is one Senator for every three Deputies. The President of the republic, inaugurated on Sept. 18, 1886, is José Manuel Balmaceda.

Area and Population.—The area is 293,970 square miles, including the territories in Patagonia and Tierra del Fuego lying west of the eastern ridge of the Andes, which were conceded to Chili in the treaty made in 1881 with the Argentine Republic, and the territories taken from Bolivia and Peru in the last war. The Peruvian province of Tacna is to remain in the possession of Chili for ten years, at the end of which period a popular vote of the inhabitants will determine to which country it shall belong. The population of the republic was computed on Jan. 1, 1889, at 2,665,926, being 9 to the square mile, on the basis of the census returns of 1885, to which 15 per cent. is added in official estimates on account of the defective enumeration, making the population, including 50,000 Indians not returned in the census, 3,115,815. Santiago, the capital, has about 200,000 inhabitants, and Valparaíso 105,000. Education is gratuitous, the schools being supported by the state. There were 1,074 students of law, mathematics, medicine, and art in the University and National Institute of Santiago and other superior schools; and, including the students in the lycées of the provincial capitals, the number was 4,877. There were 950 public primary schools in 1887, with an average attendance of 55,813, and a total inscription of 81,362, and 501 private schools with 26,912 pupils on their registers. In 1885 the number of children of school age was 600,634. The Chilean Government, anxious to have British and German colonists, made arrangements to transport 25,000 persons gratuitously from Europe during 1890. Valdivia, Arauco, and Llanquihue are largely peopled by Germans.

Commerce and Production.—The total value of the imports in 1888 was 60,718,000

pesos or dollars (the silver peso, coined on the basis of the five-franc piece, is equal to \$0.77 in gold), and of the exports 73,089,935 pesos. The exports of nitre were valued at 33,866,196 pesos; of copper, 15,160,882 pesos; of silver, 7,733,864 pesos; of guano, 1,535,035 pesos; of iodine, 913,750 pesos; of manufactures, 48,812 pesos; of agricultural products, 8,784,363 pesos. The wheat exported was 5,500,000 bushels, valued at 4,548,729 pesos. The shares of the principal countries in the trade of 1888 are shown in the following table, values being given in pesos:

COUNTRIES.	Imports.	Exports.
Great Britain	26,851,141	56,895,407
Germany	14,946,577	4,751,990
France	6,151,518	4,295,065
United States	3,153,173	2,070,064
Peru	4,845,497	2,071,894
Brazil	680,546	115,863
Argentine Republic	682,557	23,600
Italy .....	.....	111,511

The annual product of wheat is about 21,000,000 bushels; of wine, 24,000,000 gallons; of copper, 40,000 tons; of silver, 335,000 pounds; of gold, 1,000 pounds; of coal, 10,000,000 tons; of nitrate, 800,000 tons.

The nitrates are exported mainly to Germany and France. They already constitute three fifths of the total exports, and the industry is growing. Copper mining has become a precarious business since the collapse of the copper syndicate and the development of a keen competition between the producers of Europe and of the United States. Gold mining, which flourished under the Spaniards (three quarters of the gold sent to Spain having for a long time come from Chili), has recently been resumed with satisfactory results. The gold mines at a certain depth run into iron pyrites, from which only 40 per cent. of the gold could be extracted by the primitive method formerly in use, and when Chili became the principal producer of copper in the world they were nearly all abandoned for the more profitable industry. Chili is said to have a greater number of gold mines and deposits than any other country. Mines are now worked in twenty or more districts, scattered from Taltal in the north to Tomé in the south, though only three or four companies have been able to raise capital enough to introduce new and more perfect means for extracting gold. The native Chilians who own the properties, although unable to work them on a suitable scale, have been not less reluctant to sell than foreign investors have been to buy, because the European capitalists have insisted on having options running a year, and during that time the owner can neither sell to other parties nor raise the price if the mine develops unexpected riches. A change in the mining laws has been made that is advantageous to investors, who till 1889 were compelled to keep at least four men at work in order to maintain legal possession of a mine. The law was the cause of much litigation, from the fact of the poorer miners being compelled to cede a share of their claims to persons whom they called in to aid them, and, therefore, it has been repealed. Under the new mining law the payment of an annual license fee, varying according to the nature of the property, secures a

perpetual and perfect title to the property, which the owner may work or keep idle and may freely transfer to any other person.

The importation of European labor has been resented by the native workmen. In July, 1890, a serious strike spread through the nitrate districts. It began in the port of Iquique, where it was accompanied by riots and the stoppage of all traffic. When the rioters had destroyed much property troops were sent by the Government. In the first encounter 40 of the workmen were killed or wounded. At Antofagasta, when the troops had gone to Iquique, the employers paid under duress an advance of three months' wages to the strikers. The number of strikers in the whole district was about 7,000. At Arica the soldiers charged into a mob, wounding many with their bayonets. A large body of rioters sacked and burned stores in Valparaiso, and were subdued by troops brought from Santiago, 1,000 being arrested and imprisoned.

Navigation.—The number of vessels entered inward in 1888, inclusive of coasting craft, was 9,880; tonnage, 8,730,329; the number cleared outward, 9,795; tonnage, 8,655,579. About 40 per cent. of the tonnage was Chilean and 30 per cent. British. English, German, and French steamship lines run between Chilean and European ports through the Straits of Magellan, and English and Chilean lines run to Peruvian ports and Panama.

Railroads.—The lines in operation in 1889 had a total length of 1,748 miles. The state lines were 749 miles in length, having cost up to the beginning of 1888 the sum of 48,247,398 pesos. The receipts in 1887 were 6,349,621 pesos and the expenses 4,197,250 pesos on the Government lines. The construction of 614 miles of new railroads has been authorized.

The Post-office and Telegraphs.—The number of letters and packets carried in the mails during 1888 was 41,093,855.

The telegraph lines in the beginning of 1889 had a length of 10,640 miles, of which 7,030 miles were the property of the Government. On the state lines 572,333 messages were forwarded in 1888.

The Army and Navy.—The strength of the regular army, as fixed by the law of Dec. 30, 1887, is 5,835 men. The National Guard in 1888 numbered 48,530 men. The navy in January, 1889, consisted of 3 ironclads, 1 deck-protected cruiser, 10 first-class and 2 second-class torpedo boats, 2 corvettes, 3 rams, 2 dispatch boats, 2 transports, and 4 gunboats. The cruiser "Esmeralda," of 2,810 tons displacement, carrying 2 25-ton breech-loaders, besides 6 4-ton guns and machine guns, can steam 18 knots an hour. The navy is strong for the size of the country, because it is considered of the utmost importance to be able to keep the communications along the coast open, many of the towns, owing to the nature of the country, being almost inaccessible by land, their supplies depending on the communication by sea. One very powerful ironclad, 2 swift cruisers, and 2 torpedo gunboats capable of steaming 21 knots under forced draught, have recently been ordered in Europe.

Finances.—The chief part of the revenue is obtained from customs. The income for 1888 was estimated at 46,000,000 pesos, the expendi-

ture at 40,234,685 pesos. For 1889 the estimate of ordinary revenue was 46,000,000 pesos, and of expenditure 53,000,000 pesos, including 7,000,000 pesos for new railroads and the resumption of specie payments. The export duty on nitrates furnishes more than a third of the revenues of the Government.

The external debt on Jan. 1, 1889, amounted to 39,976,500 pesos, and the internal debt, including paper currency, to 47,524,096 pesos.

Political and Economical Situation.—During the administration of President Balmaceda, the revenue having considerably increased, large strides have been made in popular education, and new buildings for elementary and normal schools have been erected in all parts of the country. New railroads costing more than \$40,000,000 have been contracted for, the greater part with citizens of the United States. A line of steamers has been subsidized which run between Valparaiso and Panama. The country has not made the advance in general well-being that the expansion of foreign commerce seems to indicate. Agriculture is less prosperous than formerly, owing to the exhaustion of the wheat lands. British and German laborers have been officially warned against the delusively tempting prospects held out to immigrants. The wages are not what they are represented to be, and foreigners are despised and often ill-treated by the native citizens. Violent political demonstrations, one of which occurred on May 20, 1890, and the labor disturbances of July are indications of a growing turbulence from which the republic has long been free. All the political parties—Liberals, Radicals, Conservatives, and Monti-Varistas—opposed the candidate whom the President favored as his successor in 1891, Señor San Fientes, who, by accepting the Ministry of the Interior, retired from the contest. Chili opposed obligatory arbitration, and refused to adhere to the Pan-American arbitration treaty. Her relations with the other republics have been excellent, except for a difference with the Argentine Confederation respecting the delimitation of their respective territories in Patagonia.

CHINA, an empire in Asia. The reigning Emperor, Kwangsu, born in 1871, son of Prince Shun, the seventh brother of the Emperor Hien-fung, succeeded to the throne by proclamation on the death of the Emperor Tung-Chi, in 1875. The Empress Dowager, the mother of Tung-Chi, acted as regent until his marriage in February, 1889, when he assumed personal direction of the Government. (For area and population, see "Annual Cyclopædia" for 1889).

Commerce.—The value of the imports into China during 1888 was 124,782,893 haikwan or customs taels (the haikwan tael = \$1.15) and of the exports 92,401,067 haikwan taels. Of the total amount, 103,392,264 taels represent the transit trade of Hong-Kong; 47,093,616 taels, the share of Great Britain not embraced in that amount; 12,108,275 taels, the direct trade with the United States, in which sum 3,145,712 taels stand for imports and 8,962,563 for exports; 15,898,535 taels, the trade with Continental Europe (without Russia); 9,336,970 taels, the trade with Japan; and 7,801,565 taels, the trade with Russia in Europe and Asia. Cotton goods were imported in the amount of 44,437,525 taels; opi-

um, 32,330,506 taels; metals, 6,887,123 taels; woolen goods, 5,097,605 taels; sea and fishery products, 4,517,054 taels; kerosene oil, 2,219,332 taels; coal, 1,657,164 taels. The export of silk and manufactures of silk amounted to 32,180,298 haikwan taels; tea, 30,293,251 taels; sugar, 2,489,989 taels; clothing, 2,106,970 taels; straw braid, 1,989,842 taels; paper, 1,650,298 taels; hides, 922,343 taels; chinaware and pottery, 761,128 taels. The total quantity of tea exported was 2,167,552 piculs of 133½ pounds, of which 688,216 piculs went to Great Britain, 675,177 to Russia, 302,071 to the United States, 149,769 to Hong-Kong, 163,852 to Australia, and 74,133 to other countries. Imports of merchandise of the value of 68,433,543 haikwan taels and exports of the value of 36,460,737 taels passed in 1888 through the port of Shanghai; 11,775,141 taels of imports and 14,228,733 of exports through Canton; 6,501,811 taels of imports and 4,355,012 taels of exports through Amoy; 3,303,668 taels of imports and 8,841,818 of exports through Foochow; 7,347,099 taels of imports and 1,608,248 of exports through Swatow; and 1,981,076 taels of imports and 4,776,776 of exports through Tientsin. Of the other open ports Hankow had a trade of 4,143,138 taels; Pakhoi, of 3,512,749 taels; Takow, Tamsui, Chefoo, and Kiungchow, of between 1,000,000 and 2,000,000 taels; Newchang, of 350,261 taels; and Chinkiang, Kiukiang, Ningpo, Wuhu, Wenchow, Kelung, Taiwan, and Ichang, little or none. The port of Nanking, which the Chinese Government promised in the treaty with France in 1858 to throw open to foreign commerce, has not yet been opened. The expectations of a large expansion of the import trade from the commutation of the transit duties have not been realized. The foreign imports at Shanghai in 1889 actually relapsed to a lower figure than in 1885. The transit passes obtained on payment of one half the import duties are not used in many places, the provincial authorities having lowered the *likin* rates to compete with the imperial duty. The future of the great tea and silk trades is very uncertain. The tea trade seems to have passed to other countries, and silk production is threatened with extinction unless measures are taken to combat the silk-worm disease. From Shanghai there is now a considerable export of raw cotton to Japan, where there are flourishing spinning establishments. The place of the great staples may be supplied by smaller exports suited for the foreign markets that may be brought out when the country and its products are better known and its means of transport improved. The many inland barriers are an obstruction to the export as well as to the domestic trade, and the removal of a large proportion of them, if not their total abolition, is urgently wanted in the interest of commerce.

Navigation.—In 1888 there were 28,161 vessels, of 22,307,859 tons, entered and cleared at Chinese ports, and of these 23,249, of 21,311,651 tons, were steamers; 15,115, of 14,069,260 tons, were British vessels; 9,054, of 5,744,529 tons, Chinese; 2,762, of 1,570,035 tons, German; 326, of 281,900 tons, Japanese; 234, of 84,455 tons, American; and 176, of 268,644 tons, French.

Telegraphs and Postal Service.—Remote parts of the empire are already connected by

telegraph lines, which are being rapidly extended by the Government into new regions. There are three main lines, with many branches. One, the old line, starts from Tzechulin, the foreign concession at Tientsin, and sweeps in a gigantic curve through Chining and Chinkiang, Soochow, Hangchow, Poochow, Amoy, Swatow, and Canton up the West river to the frontier of Tongking. Another starts from Chinkiang up the valley of the Yangtse to Luchow (above Chungking), thence through Kweiyang (the capital of Kweichow) to Yunnan and the Burmese frontier at Momein. A branch runs from Yunnan to Mungtze and Kai-hua, on the western Tongking border, to within sixty miles of the terminus of the coast line at Kwang-nan. Messages between these two stations of Kia-hua and Kwang-nan had at first to travel over the long stretch down the Yangtse, and thence south through Chinkiang and Canton. Now a short line unites Kai-hua with Pasé, and the circle is complete. The third main line runs from Peking through Tientsin to Kirin, thence in three directions to Aigun, on the Amur, to Wenchuen, the point where the Russian, Chinese, and Korean borders meet, and to Taku. Shansi, Shensi, Kansu, and Honan were the only provinces without telegraphs at the end of 1889. From Taku there is connection with Seoul, the capital of Corea, and with the international cable at Port Arthur, and by a recent arrangement with Russia the Chinese system will join the Siberian line in the Amur region, bringing about direct overland communication with Europe. The Chinese telegraph administration has prevented the connection with the Siberian or the Burmese systems from being of any use to the mercantile community by entering into an arrangement with the English and Danish cable companies, fixing the price of all messages between China and Europe at \$2 a word. Col. Denby, the United States minister, in behalf of American merchants, protested without avail against this Chefoo telegraph convention, which was ratified early in 1890.

The postal service, which is under the direction of the Ministry of War, is carried on by means of couriers and carts. There are 8,000 stations for post carts and 2,040 for runners. The custom-house authorities maintain a separate service between the treaty ports and the capital.

Railroad Projects.—A large internal commerce is carried on over the navigable rivers and canals and the unpaved roads that connect the towns throughout the empire. The railroad built for the conveyance of coal from the Kaiping mines to deep water on Potang river has been continued, by way of Taku, to Tientsin, its total length being 86 miles. The Government ordered it to be extended to Tungchow, within a few miles of the imperial capital, near the close of 1888, and a few months later recalled the decree. At the further end it is being continued to a coal mine 15 miles beyond the present terminus. In the summer of 1889 the Emperor approved a project for a line from Peking through the north-western part of the empire to Hankow, on the Yangtse-Kiang, appointing Chang-Chi-Tung to the viceroyalty of Hupeh and Honan, and ordering him to construct the line. The chief obstacle to railroad construction is the opposition of the

common people, who would be driven to revolt if their homesteads and family tombs were disturbed. Liu-Ming-Chuan, the Governor of Formosa, who shares the belief of the Viceroy Li and the Empress Dowager in the necessity of railroads, is building a line on that island, of which 12 miles were opened for passenger traffic in 1888, and 5 miles more on Jan. 28, 1890. The work of excavation is done by soldiers, who were called away to carry on military operations against the aborigines in 1889. The ambitious project of a network connecting Peking with the provincial capitals, of which the line to Hankow was to be the beginning, was no sooner announced than bids were sent to the Government from manufacturers of railroad material in every country, and European financiers offered to lend the Government any amount of capital. The Hankow line was proposed by Chang-Chi-Tung simply for the purpose of winning a political advantage by blocking Li-Hung-Chang's plan of extending the existing line to Tunchow. In his memorial he urged that a trunk line running through the central provinces was preferable to a road near the coast, because it would be removed from the influence of foreigners, and in the same vein he suggested that it should be built with native capital and managed entirely by native skill, and that only iron of Chinese production should be used. These things are impossibilities, but not more so than the construction of a long line at all, in the present state of popular feeling, to run through a populous country where the authority of the Central Government is not felt. In commissioning the troublesome critic to carry out his visionary project the Government had as little faith as himself in the feasibility of the proposal. As native capitalists were unwilling to risk the 120,000,000 taels that Chang estimated would build the line, he proposed that the foreign customs should be mortgaged; but that the Government would not consider, being unwilling to sacrifice the most certain and productive source of revenue. He afterward proposed that a foreign loan should be raised to enable him to begin the work. The Peking authorities have always shown the greatest reluctance to place China in the power of foreign money-lenders, however pressing the immediate need. They refused to authorize a loan for the great trunk railroad project, which has since remained in abeyance. When the scheme was first proposed the French minister reminded the Tsung-li-Yamen of the clause in the Tientsin treaty securing to French engineers and French material the preference whenever the Chinese Government begins to build railroads. After the virtual abandonment of Chang-Chi-Tung's opposition scheme Li-Hung-Chang has been allowed to proceed with his plan of bringing the Kaiping-Tientsin line to Tunchow. The plan of extending the line through Shan-hai-Kwan to the Amur provinces and Kirin was proposed by Huang, Governor of Kiangsu, to meet the military dangers arising from the Russian-Siberian railroad. In the same memorial he suggested the construction of other strategic lines along the Yangtse-Kiang westward. The Russian Government, in view of the colonization of Manchuria with Chinese soldiers, the construction of fortresses, and the proposed building of frontier railroads, has resolved to hasten the completion

of the trans-Siberian line, and also to restrict the entry of Chinese colonists into the Amur and Ussuri provinces.

Finances.—The ordinary revenue of the Imperial Government is estimated at 84,932,000 haikwan taels. The receipts of the custom house have been made public since 1861. For 1888 they amounted to 23,167,892 haikwan taels, including 6,622,406 taels for the commuted *likin* duties on opium. The customs duties on exports are heavier than those on imports. The expenses of the army are equal to nearly the whole of the revenue as estimated above. The main items of revenue are 15,800,000 taels from foreign customs, and an equal amount from sundry other duties, 12,880,000 taels from salt, 10,750,000 taels from the land tax, 12,850,000 taels from the *likin* or inland transit duties, 7,900,000 taels from opium, and 4,600,000 taels from inland customs. The amount collected from the people is said to be twice as much as the officials pay in to the imperial treasury. Of the half that is retained they absorb nearly all themselves, applying only a small portion to local public purposes. The foreign debt consists of £627,675, the remainder of a loan made in 1874, and of £1,604,276 borrowed in 1878, both secured on the maritime customs and paying 8 per cent. interest, in addition to silver loans of about 6,500,000 and 9,500,000 taels, contracted in 1884 and 1886. In 1887 a loan of 1,000,000 taels was arranged in Germany. The internal debt is about 30,000,000 taels.

The Army.—According to official statistics, the Army of the Eight Banners numbers 823,800 men, of whom 100,000 are supposed to be reviewed by the Emperor at Peking every year, and the Ying-Ping, or National Army, numbers 6,459 officers, and 650,000 men. Large strides have been made in the adoption of European tactics and the acquirement of modern war material since the hostilities in Tonquin. Large quantities of rifles and cannon have been purchased abroad, and in the arsenals firearms and ammunition are being manufactured under the direction of skilled European superintendents.

The Navy.—The Pei-Yang, or northern squadron, of which the Viceroy Li-Hung-Chang is admiral-in-chief, with headquarters at Wei-Hai-Wei, the seat of the imperial naval arsenal, is the strongest to-day in the far East. William Lang, formerly a captain in the British navy, has for many years been the European commissioner of the Chinese navy and joint commander of the northern squadron with Admiral Ping-Ju-Chang. On June 15, 1890, he resigned his commission in consequence of the jealousy of the Chinese officers, and most of the other European officers followed his example. The fleet consists of 1 heavily armored barbetteship of nearly 10,000 tons, 2 armored turret ships, 4 steel cruisers of the latest type, 2 belted steel cruisers, 4 torpedo cruisers, 23 fast torpedo boats and 4 of the second class, 10 lightly armed modern gunboats and a number of gunboats of older type, each carrying a single 35-ton muzzle-loading gun, besides training and gunnery ships, a torpedo training ship, 3 or 4 transports, and 2 fleet dispatch boats. The crews are muscular and hardy natives of Chekiang and Fukien who have been reared on the sea. The fleet is better manned than officered, and the administration leaves much to be desired.

though it is better than that of the army. The crews have been drilled in European fashion, and are expert sailors. One of the torpedo boats is the fast steamer "Yarrow," built on the Thames in 1887, which is to serve as a model for others to be built in the dock-yard at Foochow. The flagship is the "Ting-Yuen," launched at Stettin in 1882, a first-class armored frigate of the type of the German man-of-war "Sachsen," with a displacement of 7,430 tons, engines of 6,200 horsepower, protected with compound armor, and armed with 4 12-inch Krupp breech-loading guns in two turrets. The "Chen-Yuen" is a sister ship, exactly similar in every point. The "Ching-Yuen" and the "Chih-Yuen," built at the Armstrong works in 1889, are of steel, with 2,300 tons displacement and 17 feet draught, and are driven by double sets of triple-expansion engines of 6,500 horsepower, giving a speed of 18 knots. The inclined protective deck is 2 to 4 inches thick. The armament consists of 2 8½-inch Krupp guns in the fore part and 1 aft, with 2 6-inch Armstrong breech-loading guns, 4 torpedo tubes, and numerous Hotchkiss and Gatling guns. The "Lai-Yuen" and "King-Yuen," built at Stettin, are likewise protected by bulkheads and deck armor. Their engines, of 5,000 horsepower, can steam 15½ knots an hour. They are armed with 2 Krupp 8½-inch guns mounted on a turn-table in a barbette and 2 6-inch guns on carriages amidships, with Whitehead torpedo tubes and an auxiliary armament like the other cruisers. The gunboats of the more modern type are capable of steaming 12 knots. The northern squadron is the only really efficient fleet that the Chinese Government possesses. The necessary arsenals and repairing docks have been constructed to keep it in a state of efficiency. The Nan-Yang squadron, or squadron of the south, consists of 2 fast steel cruisers built in Germany and 2 built in China, 1 large, swift gunboat with twin screws, 4 older gunboats, and two monitors, all heavily armed with Armstrong or Krupp breech-loaders and machine guns. The Foochow squadron consists of 9 steel cruisers, of from 1,300 to 2,400 tons, 3 large gunboats, 9 dispatch boats, 4 armed transports, and 2 new torpedo boats. The Canton flotilla, designed chiefly to suppress piracy on the rivers, numbers 17 fast-sailing gunboats, with 20 or more torpedo launches for harbor protection. The defects of the army form the subject of a recent rescript of the young Emperor, in which he complains of the unnecessary costliness of the maintenance of the troops, and says that false reports have been sent in regarding their number and pay; and that he has heard that the generals and officers lead an indolent life, that reviews are seldom held, and that the whole organization has fallen into decay. The Manchu generals, viceroys, and governors of provinces are commanded henceforward to keep a constant supervision over the troops under their command, and to send to the Emperor lists of the officers and exact reports of the number of soldiers, both regular and irregular. The rifles and Krupp cannon supplied to the forces in Manchuria are to a great extent useless from neglect. In the Amur district 1,000 mutineers seized the town of Lan-pei-Tuan and raided the surrounding country in the autumn of 1889. The Manchu general sent a force of

infantry and cavalry against them, which was beaten in two fights. The commanding officer was killed, and many of the soldiers deserted to the insurgents.

Rebellion in Formosa.—In Formosa a formidable rebellion of the native tribes broke out in the autumn of 1889 which taxed the military resources of the energetic Governor Lin, and he adopted cruel measures to frighten the fierce mountaineers into subjection, offering a reward for the head of every Bhotan delivered to his officers. Disturbances in the mountainous eastern half of the island, which is inhabited by the aborigines, have become chronic of late years. A serious revolt of the southern tribes was supposed to have been amicably settled, when the tribes of the northeast rose, and an expedition that was sent against them was compelled to return, having suffered severely both from the enemy and from disease. The general who commanded was degraded for having lost not only many troops, but some of the guns. One of the colonels was beheaded for having stolen the pay of the soldiers. Soon after their return to Tamsui the tribes of the south advanced in force on the city of Hung-Cheng, the chief magistrate having imprisoned two of their chiefs after peace had been concluded. He promptly surrendered the captives and feasted the besiegers, but sent after they were gone for troops. An army was dispatched by land and in vessels, armed with rifles and with a supply of rockets, under a general who promised to sweep the country of savages clear to the sea. The Chinese have heretofore been unable to hold their own in the conflicts with the natives, who have extended their borders and have only been induced to remain within them by heavy bribes.

Opening of the Upper Yangtse.—The English have claimed under the Chefoo Convention the right of direct commercial intercourse with the upper Yangtse valley, and demanded the opening of a treaty port for that purpose. The right being conditional on the navigability of the river for steam vessels, a company was formed by a merchant named Archibald Little for the purpose of proving its navigability by having a steamer specially designed to ascend the rapids. The Chinese officials, fearing the popular outbreaks and complications of various kinds that would result if foreign steamers should appear suddenly on the internal waters of the empire, refused to countenance the experiment, and the owners feared to take their vessel up the river in defiance of the authorities, knowing that without their protection it would be exposed to attacks from the boatmen and other inhabitants of the shores. The objection that weighed most in the minds of the Pekin officials was that steamboats would not only compete with the people who make their living by river transportation, but would render their occupation more dangerous, as the current is so swift that some of the junks that crowd the river in descending would be carried against the steamboats and crushed or upset. The British minister made light of these apprehensions; yet when the Chinese Government finally agreed to grant the permission, on the condition that persons whose property was destroyed by collisions of that nature should be indemnified, the company refused to be held re-

sponsible. The steamer was then got out of the way by the Chinese Government reimbursing the company and becoming its owner, and the dogged determination with which the English negotiators had pressed their views for four years was finally rewarded by their obtaining the concession for which they strove without the instrumentality of the steamer. The new arrangement is embodied in six additional articles to the Chefoo Convention. This supplementary Convention was signed on March 31, 1890. Chungking, on the upper Yangtse, is declared to be open to foreign commerce. Foreign merchants are permitted to charter Chinese boats or to build boats after the Chinese pattern for the conveyance of goods to the new treaty port, always employing only Chinese boatmen. This advantage for the river boatmen the Viceroy of Szechuen, in his proclamation warning the people against disturbances, says is due to the fact that "the Tsung-li-Yamen have gone back and forth discussing these matters till their lips are parched and their pens are worn out." They did not give way to the English demands without gaining an equivalent that to them was of greater substantive value, and one that the British minister was very reluctant to concede. This was the recognition of the right of the Chinese Government to prohibit foreign steamers from plying on the internal waters of China. It is agreed that steam navigation shall not be introduced in any river except by Chinamen, though after Chinese steamers have led the way and accustomed the people to the innovation, then foreign steamers may enter the rivers. The region first opened to foreign trade by the new convention is the most wealthy and productive part of the empire. The Yangtse has a course of little less than 3,000 miles, and 1,200 miles are navigable for steamers. The valley is dotted with populous cities, and its rich soil is tilled by industrious cultivators.

The Legalization of Opium Growing.—Imperial edicts have condemned in scathing terms the cultivation of the poppy in China and the manufacture and sale of opium of domestic production, against which severe penalties have been decreed, yet without checking the spread of the new crop in all parts of China, and especially in the western provinces. Although some of the viceroys and governors, like Tso-Tsung-Tang, occasionally destroyed the plants throughout whole districts, the farmers, especially in the western provinces, continued to cultivate the poppy in ever greater quantities until it has become as common a crop as rice, beans, or millet. It is not only a very profitable product, but can be grown on the same soil and in the same season with the ordinary crops. The people of China know that when their Government attempted to root out the vice of opium-smoking the British compelled it to continue to admit the noxious drug. The cultivation of native in competition with Indian opium received the support of public opinion. In some of the provinces it was heavily taxed. None of the taxes reached the imperial treasury, and finally the Board of Revenue in Peking drew the Emperor's attention to the immense quantities of opium produced in China, and suggested that a proper rate of duty be collected. This move on the part of the board followed upon a report from Sir Robert Hart,

Director of Maritime Customs, on native and foreign opium, showing the enormous and increasing consumption of the native drug. The Emperor issued a decree ordering all viceroys and governors to report on the quantity of opium grown and manufactured and the taxes levied upon it, and instructing the Grand Council to make a thorough investigation of the matter, and to inform the provincial authorities that the Emperor is aware of the growth of the poppy in large quantities in certain provinces named in the decree, whence it is sent to various places, paying transit and all other duties. He directs the authorities to find out the quantities produced and the price, and then to take steps to raise a proper amount of revenue from it.

CHRISTIAN CHURCH. The General Convention of the Christian Church met in Suffolk, Va., May 2. The Rev. W. W. Staley was re-elected president. A resolution was adopted to send delegates to the American Christian Convention, the representative body of the Christian Connection, a society affiliated with the Christian Church in origin and doctrine, but separated from it on certain questions of polity.

CHRISTIAN CONNECTION. The quadrennial meeting of the American Christian Convention was held in Marion, Ind., in October. The Rev. D. A. Long was chosen president. A report was adopted dividing the territory of the Connection into seven districts. Reports were received from five colleges and the Christian Biblical Institute, besides which the Convention approved a plan for the institution of a "correspondence college." Action was taken looking to the establishment of a Central Christian University, in commemoration of the centennial of the Christian movement in America. To this end the second Sunday of January was appointed as a day for the celebration of the event, with religious and historical exercises. The receipts for home mission work during the term of four years had been \$16,953. In all 68 laborers had been employed, while the average number of laborers during the whole term was 22. These had worked in 18 States. Several hundred dollars had been appropriated for colored theological students, in aid of their preparation for work, at Franklinton, N. C. A general evangelist had been employed during the past two years. A fraternal messenger had been commissioned to the Southern brethren, and to the World's Missionary Conference in London. As a result of the home mission work, 40 churches and 192 Sunday-schools had been organized, 1,005 persons baptized, and 2,998 members received. The society was possessed of endowment stock amounting to \$4,653. Resolutions were adopted advising labor in every practicable way for the overthrow of the traffic in intoxicating liquors, as being "anti-Bible, anti-Sabbath, anti-Christian, and anti-republican," and asking Congress to legislate against the exportation of spirits from this country to the Congo.

CHRISTIAN ENDEAVOR, YOUNG PEOPLE'S SOCIETIES OF. These societies are local organizations affiliated with single evangelical churches, but having no connection with one another except a voluntary, fraternal one. Their purpose is to aid in the "training of young

converts for the duties of church membership; to promote an earnest Christian life among their members, to increase their mutual acquaintance, and to make them more useful in the service of God." The first society was organized in Wiliston Congregational Church, Portland, Me., Feb. 2, 1881. Other societies were formed, and since 1883 their increase has been rapid. Thus in 1882, the societies had 481 members; in 1883, 2,870; in 1884, 8,905; in 1885, 10,964; in 1886, 50,000; in 1887, 140,000; in 1888, 300,000; in 1889, 500,000; and in June, 1890, more than 660,000. The essential features of the societies are pledged and constant attendance by the members on the weekly prayer-meetings, participation in the exercises of those meetings by every active member, and work for others through the committees, and in any way that may be suggested. An important service is the consecration meeting, which should be held monthly or at stated periods, at which the roll of membership is called and each one is expected to respond with a renewed testimonial of his loyalty to Christ. Members are active—young persons, professing Christians, who only have the power of voting; associate—young persons of worthy character who are not at present willing to be considered decided Christians, and who are excused from taking part in the prayer-meetings; and affiliated, or honorary members—persons who have passed the age of active membership. The principal committees are the Prayer-Meeting, Social, and Executive Committees, the functions of which are fairly defined by their names; and the Look-Out Committee, whose duty it is to bring in new members, introduce them to the work and to the other members, and look after and reclaim any who seem indifferent to their duties as mentioned in the pledge. In other points, the constitutions of the societies are adaptable to the conditions of the local church. Auxiliary to these societies are junior societies in which the children of the church are banded together for Christian training. The United Society of Christian Endeavor is defined as being simply a medium of communication between the societies. It prints the literature and serves as a medium of correspondence, but has no authority, and is supported by the sale of its literature and by voluntary contributions.

The ninth International Convention of the Young People's Societies of Christian Endeavor was held in St. Louis, Mo., beginning June 12. The Rev. Francis E. Clark, D. D., presided, and made an address, presenting the principles of the society, which, as summarized, were: A revival of the covenant idea; a revival of conscience; a revival of loyalty; a revival of fellowship. The society stood for no particular creed or church polity; but each local organization should be loyal to the creed and polity of the church to which it belonged. Denominational lines were not to be obliterated, but only temporarily forgotten, in the conventions of the societies. The four days during which the convention was in session were occupied with devotional meetings and addresses on the principles of consecration, fellowship, and devotion. Some twenty-two denominations were represented. The reports showed that there were now 11,013 societies of Christian Endeavor in the United States and Canada, hav-

ing more than 660,000 members, and that 3,341 societies and 175,000 members had been added since the last convention. Resolutions were adopted urging increased regard to the sanctity of the Sabbath; the prohibition of the liquor traffic; the promotion of Sunday-school and missionary enterprises; and asserting the rightful and necessary supremacy of all local churches, within which the Christian Endeavor societies are to regard themselves as subordinate to official authority. The number of trustees in the executive board was increased, in order that a more adequate representation might be given to the several denominations and different parts of the land.

A card was published after the convention at St. Louis to meet some apprehensions in regard to the nature and purpose of the Christian Endeavor movement, in which it was declared that there was no central board of authority of control of the society. The United Society of Christian Endeavor, the card said—

simply serves as a bureau of information. It exercises no authority, demands no allegiance, levies no taxes, and does not even record the names of societies unless they wish to be recorded. It has only one paid officer, a general secretary. Its board of trustees is composed of leading representatives of all evangelical denominations, and it has always insisted upon the fundamental principle that every local society is responsible to, and is governed by, its own local church and its own denomination. The yearly international conventions, like the great gathering recently held at St. Louis, are simply mass meetings. They are not delegated bodies in the strict sense of the term. No legislation is attempted, and no votes are taken that are binding upon individual societies. . . . The same is true of the local unions. No society is responsible to the city "union" . . . or to the United Society, or to any other body than its own church and denomination.

The board of trustees on the 11th of September adopted a resolution reaffirming the principle that the societies stand together on an evangelical basis, and that societies connected with evangelical churches only can be enrolled in the United Society, and adding: "While we disclaim any authority over local unions, State and other organizations, yet we recommend to them that these principles be recognized."

The second annual convention of the Ontario Provincial Union of the societies was held in Hamilton, Oct. 23 and 24. The Rev. Mungo Fraser, D. D., presided. Statistics were presented showing that there were in the province 196 societies, viz., 94 in Presbyterian churches, 48 in Methodist, 23 in Baptist, 20 in Congregational, 5 in Episcopal, and 6 in other churches. A deputation was received from the Epworth League of the Methodist Church, and a committee was appointed to confer with a committee of that body respecting union. The convention declared by resolution that every society taking its name and adopting its principles is eligible to membership in the Union.

In several denominations societies analogous to the Societies of Christian Endeavor have been formed in connection with the denominational organization, and subject to the control of the authorities of the church. One of the largest of such societies is the Epworth League in the Methodist Episcopal Church, with which are connected more than 4,200 branch leagues.

CITIES, AMERICAN, RECENT GROWTH OF. This article is practically a continuation of that which was begun in the "Annual Cyclopaedia" for 1886 and has been continued in each volume since. The volume for 1886 treated of 88 cities, that for 1887 of 45, that for 1888 of 35, that for 1889 of 44, while the number presented herewith is 84, making a total of 296.

Aberdeen, a city and the county seat of Brown County, South Dakota, on James (familarly called Jim) river, in the northeastern part of the State, the metropolis of what is known as Central Dakota. The Chicago and Northwestern, the Chicago, Milwaukee and St. Paul, and the St. Paul, Minneapolis and Manitoba Railway systems operate lines radiating in seven directions from the city. In 1887 the grade of the Aberdeen, Bismarck and Northwestern Railroad was purchased by the Minneapolis and Pacific, and there is a partial grade and survey to Pierre. Connections are had with the West, in addition to direct communication with Chicago, Duluth, St. Paul, and Minneapolis, and car loads of fruits and sugars are landed direct from California. The first settlement was made in the vicinity of Aberdeen in 1880. In 1890 the population, by the Federal census, was 3,182. The building improvements from 1884 to 1888 cost \$1,257,372, and in 1888 the amount expended for city improvements, building residences, etc., was \$436,947. Water is supplied from two artesian wells, which deliver 2,500,000 gallons daily. The city lies in the artesian-well district of James river valley, possessing great volume and heavy pressure, the water-bearing sand at Aberdeen being reached at 960 feet. In 1889 there were 5 school and church buildings, 724 pupils in the public schools, and 12 teachers. There are 3 national banks. The deposits in 1888 were \$450,000. The assessed valuation of the city is \$2,068,557, and the bonded indebtedness \$80,050. The assessment returns of Brown County for 1889 show a total of \$7,899,356. In 1888, 334,703 acres of the county were under cultivation, and, in spite of the partial failure of crops, produced 2,872,730 bushels of wheat, 1,264,484 bushels of oats, in addition to rye and barley, 110,573 bushels of flax, 181,730 bushels of potatoes, and 53,818 tons of hay, while 2,901 acres of the county are planted in trees one year old and over. Two daily and 5 weekly papers are published in Aberdeen, and the city has electric lights, a fine opera house, large hotels, a city hospital, and a public library. There are a flouring mill, a planing mill, a wood-working establishment, and a foundry. A United States land office is at Aberdeen.

Anderson, a city of Indiana, the county seat of Madison County, on the west fork of White river. Four railroad lines have their termini in or pass through the city. The population in 1890 was 12,897. Since the discovery of natural gas the town has been growing rapidly as a manufacturing center. The chief industries are strawboard, wire rod, wire and wire nails, knives for wood workers, sheet and bar iron, nuts and bolts, glass, encaustic tiles, soluble glass, staves and heading, grain cradles and snaths, wooden ware, brick machines, and D haulies. The city is lighted with electricity and supplied with water from works owned by the corpora-

tion. It has a well-organized fire department. Four natural-gas companies supply gas for domestic use, the cost to consumers being less than at any other place in the country. There are about five miles of street railroad. The court house, completed in 1884, cost \$200,000; and the Dosey Theatre, erected in 1886, cost \$80,000. The city is very economically governed, and has a low rate of taxation.

Ashland, the county seat of Ashland County, Wis., on the south shore of Chequamegon Bay. Its population in 1890 was 10,000, representing nearly every civilized nation on the earth. It is the center of an extensive lumbering district and is the shipping port for the iron ore produced on the Gogebic range. The railroads terminating in this city are the Wisconsin Central, the Milwaukee, Lake Shore and Western, the Chicago, Minneapolis, St. Paul and Omaha, and the Northern Pacific. Ashland has 8 saw mills, which cut 138,000,000 feet of lumber, 42,176,000 shingles, and 20,134,650 lath during the summer of 1890. It has the largest charcoal blast furnace and the most extensive ore wharves in the world. The blast furnace turns out 100 tons of pig iron daily. The ore wharf owned by the Wisconsin Central Railroad is 3,100 feet long, 43 feet wide, and has a double row of pockets on each side, capable of holding 28,000 tons of ore. The season's shipment from this wharf reached 957,397 tons, while the double wharf owned by the Milwaukee, Lake Shore and Western Railroad shipped 1,125,971 tons, making a total of 2,174,556 tons. Ashland has 8 lumber wharves, 2 coal wharves, and 2 commercial wharves. The total number of vessels that arrived during the year was 2,245, and the value of the commerce in 1889 was: Ore, \$9,000,000; coal, \$1,110,000; pig iron, \$270,000; lumber, \$2,500,000; railroad iron, \$100,000; salt, cement, and brick, \$18,000; oil, \$75,000; brown stone, \$130,000; merchandise, \$5,000,000; miscellaneous freight, \$1,500,000; machinery, \$1,525,000; railroad supplies, \$29,678; total, \$21,257,678. The city has a street railway three miles long, and is well lighted with gas and electricity. It has also a good system of water works. Ashland has three national banks, with an aggregate capital of \$275,000. It has 11 churches and 2 Young Men's Christian Association organizations, all flourishing, and its public schools, including a free high school where pupils are prepared for college, are well equipped. The Vaughn Public Library, a gift to the city by Mrs. E. Vaughn-Mackinnon, was opened Nov. 16, 1888, in a building erected for that purpose at a cost of \$50,000. The library has 1,600 volumes in the circulating department, and 1,000 volumes in the reference department, costing about \$3,000, to which frequent additions are being made by the donor. A reading-room in connection with the library takes 100 periodicals.

Atchison, a city and the county seat of Atchison County, Kan., on the left bank of Missouri river, at the great bend of the stream, 25 miles from Leavenworth. In early days it enjoyed the advantage of being the nearest point on the river to the Rocky mountains, and was the depot of Government supplies for shipment across the plains. The town was settled in July, 1854, and the post-office was opened in April,

1855. The city was incorporated in 1858. The first railroad constructed to Atchison (from St. Joseph, Mo.) was completed June 13, 1860, and on the same day ground was broken for the Atchison and Pike's Peak. Atchison has since become a very important railroad center, being the eastern terminus of the Atchison, Topeka and Santa Fé, the Atchison and Nebraska, and the central branch of the Union Pacific Railroads, the western terminus of the Missouri Pacific, and the northwestern of a branch of the Chicago, Rock Island and Pacific. Ninety trains arrive and depart daily on the 8 roads that enter the city. Five other roads, terminating on the right bank of the Missouri, are connected with Atchison by a fine railroad bridge. The total of railroad mileage in Atchison County in the year 1889 was 90.54 miles of main track, valued at \$762,861.97. In population and in taxable wealth, by report of the Bureau of Statistics for 1889, Atchison is the fifth city in Kansas, substantial growth having taken place since 1870. In the period from that date to 1888 the population increased about two and one half times, and the taxable wealth nearly twice. The population in 1870 was 7,054, in 1880 it was 13,105, and in 1890 it was 14,222, a decrease of 883 (5.85 per cent.). The taxable wealth of Atchison in 1888 was \$3,275,378. The city is the third distributing point in the State for incoming products, having heavy grocery and drug houses and extensive lumber and coal yards, and is also third in the distribution of milling products. The city has 4 flouring mills, with aggregate capital of \$365,000, employing 68 persons and turning out a product valued at \$852,317; a foundry, with capital of \$100,000, employing 150 persons, and with product of \$300,000; a harness factory, also with capital of \$100,000; 3 planing mills; a wagon, a furniture, a clothing, and a cracker factory, the last with capital of \$60,000. The capital of the gas and electric light plant of the city in 1888 was \$200,000. During the fiscal year ending March 31, 1890, the city removed all gas lights from the streets and substituted electric lights, on the basis of \$6 a month for half-night, and \$12 for all-night lights. Electricity is also to be substituted as a motor on the nine miles of main line of street railway in operation in 1890. The total receipts of the city for the fiscal year ending March 31, 1890, were \$227,983.40; expenditures, \$182,514.08. In addition to the bonded debt of the city, \$655,550, bearing interest at 4, 6 and 7 per cent., there are also internal-improvement bonds. By report of the city engineer, April 24, 1890, \$70,043.50 were expended during the year for streets, sewers, and bridges. The total amount of paved streets in the city at that date was 7.79 miles, and there were 3.78 miles of sewers. The expenditures for the fire department during the year were \$7,279.91. Atchison has 6 public-school buildings, and the total value of public-school property is \$125,000; 39 teachers are employed, and the average daily attendance in 1887-'88 was 1,702. There is also a high school. St. Benedict's College, Roman Catholic, was chartered in 1859, and there is a convent of the Benedictine sisterhood. Thirty churches in Atchison County in 1888 owned property to the amount of \$217,200.

The county has 10 banks, 4 of which are national. Three daily and 4 weekly newspapers are published in the city. Atchison has a new union depot, occupied since Jan. 1, 1890, the cost of which was \$222,530. It has also a Soldiers' Orphans' Home, costing \$49,000. On July 1, 1887 the General Synod of the English Evangelical Lutheran Church located its Western college at Atchison, the city giving \$50,000 and campus grounds of 25 acres. There is a Library and Hospital Association.

Austin, the capital of Texas, and county seat of Travis County, on Colorado river, near the center of the State (latitude 30° north), 200 miles from Galveston, and 166 from Houston. It has an altitude of 600 feet. The population in 1880 was 11,013; in 1890 it was 15,324, an increase of 4,311 (39.14 per cent.). More than four fifths are white. The city was originally located and named by a commission under authority of the Congress of the Republic of Texas, and was incorporated in 1839. The total bonded debt of Austin, Aug. 1, 1890, was \$125,000, and the assessed valuation of property (at 50 per cent. of real value) \$9,000,000. In 1880 the assessed valuation was \$5,004,224. The tax rate for 1890, for all purposes, was 1.65¢ per cent. Travis County contains 1,019 square miles, the assessed valuation of property being, for 1890, \$15,000,000, and the real value, \$30,000,000. Production in the county in the year 1888, from 118,167 acres, was \$1,924,902, of which \$1,238,194 represented 20,251 bales of cotton; 1,105,084 bushels of corn were also raised. The county tax outside the city limits is less than 1 per cent., and the bonded indebtedness of the county \$170,000. In addition to its agricultural interests, the county contains large deposits of gypsum, lime, superior clays, and material for the manufacture of hydraulic cement. The banking capital of Austin in 1880 was \$250,000, and in 1890 \$1,225,000, in 6 banks. It is the trade center of 30 or 40 counties, and cotton to the amount of \$2,800,000 was handled in 1889. The business of the city during the year reached the sum of \$1,200,000 in grain, hay, hides, wool, pecans, etc.; in groceries and provisions, \$2,600,000; and in miscellaneous commerce, \$2,750,000; while \$750,000 are distributed annually in Austin by the State. The Farmers' Alliance has established an extensive cotton depot, from which planters purchase supplies. The railroads are the International and Great Northern, the Austin and Northwestern, and the Western Branch of the Houston and Texas Central. The drainage is natural, the city being built upon hills, and there are sewers for the populous districts. Water works, of the Holly system, owned by a company, supply water from the river, and the same company also furnishes power for the electric-light system. Horse-car lines of street railway are in use, and electric lines are under construction. Bonds to the amount of \$1,400,000 were issued by the city, May 5, 1890, for the purpose of erecting a dam across the river, 60 feet high and 1,100 feet long, to create a fall of 14,636 horse-power to furnish the city with water and light and power for propelling street cars, and also with a motor for manufacturing industries. The backwater, it is estimated, will form a lake 35 miles long, and from a quarter to a half a mile wide. The

manufacturing interests include 3 iron foundries, a saddle and harness, a soap, a broom, a stone-cutting, and 4 wood-working factories, a cotton compress, 2 large lime factories, 3 brick-making establishments, ice factories, and flouring mills, with numerous small industries. Two daily papers are published. The churches number 23, of which 16 belong to whites, and 7 to colored organizations. The expenses for city schools in the past reported term were \$53,696.98; 14 school-houses are used, 9 owned by the city, 2 of which are fine buildings, and there is high school. The school population is 3,967. White and colored schools are separate, and the school fund is distributed *per capita* in support of both. In addition there are private and sectarian schools and colleges. Tillotson Institute, for colored people, has a massive four-story brick building. The State University, organized in 1883, free to both sexes, is at Austin, and has an endowment of \$350,000 in bonds and 2,221,000 acres of land. The present value is \$7,000,000, and the number of students 325. (For a view of the building see "Annual Cyclopaedia" for 1886, page 814). The Capitol, of red Texas granite, is second in size only to the Capitol at Washington, and ranks seventh among the largest buildings in the world. Three million acres of land were appropriated for its construction. It is 566 feet 6 inches long, inclusive of porticoes, 288 feet 10 inches at its greatest width, and 311 feet in height. In form it approximates the Greek cross. The blind, the deaf and dumb, and the lunatic asylums of the State, and the State asylum for the colored, are also at Austin. The blind and the deaf mute institutes, having respectively 175 and 150 pupils, represent an investment of \$600,000, and the pupils are boarded, lodged, and educated at the expense of the State. There is a Confederate Soldiers' Home. The court house, the post-office, and the board of trade building are notable structures. The city has an opera house, and a fine hotel that was erected at a cost of \$400,000. Austin is also the seat of a State land office. The death rate among the population of the city in 1889 was 10 per thousand.

Bath, the county seat of Steuben County, N. Y., on Cohocton river, 38 miles northwest of Elmira. It is on the New York, Lake Erie and Western and the New York, Lackawanna and Western Railroads, and is the southern terminus of the Bath and Hammondsport Railroad. The population in 1890 was 3,500. It has 3 banks and 5 churches. Its industries include a shoe factory employing 75 persons, a manufacturing company employing 50, a harness factory employing 40, and a sash-and-blind factory employing over 30. The county buildings, consisting of court house, clerk's office, surrogate's office, sheriff's residence, and jail, have recently been built at an aggregate cost of \$75,000. The New York State Soldiers' and Sailors' Home (see "Annual Cyclopaedia" for 1889, page 770) has nearly 1,000 inmates. The entire cost of the home and grounds, \$450,000 and \$22,500, was contributed by the citizens of Bath. The Davenport Institute for Orphan Children of Allegheny and Steuben Counties is also here. It has a flourishing academy in connection with the union school, and is called, from its benefactor, Haverling Free Academy.

Battle Creek, a city of Calhoun County, Mich., at the junction of Battle Creek and Kalamazoo rivers, which afford fine water power. The population in 1890 was 15,000. The chief manufactures are thrashing machines, traction engines, school, bank, and office furniture, wood-working machinery, flour, nails, paper, boilers, books, carriages, albums, steam pumps, printing presses, knit goods, road carts, electrotypes, shipping tags, steel scoops, wood pulleys, drag saws, dowel pins, cigar boxes, and cigars. There are large machine shops and foundries. Two daily and three weekly papers are published, and the largest printing establishment in Michigan is here. Battle Creek makes more thrashing machines than any other city in the United States. It has a good system of water works, fine central and ward school buildings, and a public library and museum. Goguac Lake, a beautiful summer resort, is within the city limits. Street cars run to all parts of the city. The business streets are paved. Two trunk lines, the Michigan Central and Grand Trunk Railways, pass through the city, and the Grand Trunk has its division shops and engine house within the city limits. The Cincinnati, Jackson and Mackinaw and the Battle Creek division of the Michigan Central Railway afford ample north and south shipping facilities. The population in 1880 was 7,063, in 1884 it was 10,051, and the city has enjoyed a steady growth since. The mortality for ten years has not exceeded 7 per 1,000. The city is well policed and lighted with electricity and has a good fire department. The Michigan Central Railroad has lately completed a passenger depot at an outlay of \$80,000.

Bloomington, a city, the shire town of McLean County, Ill., 126 miles south-southwest of Chicago, and 154 miles north-northeast of St. Louis; population in 1870, 14,590; in 1880, 17,184; in 1890, 22,242. The city is regularly laid out in squares, with wide, beautifully shaded streets, the surface being undulating. Eight lines of street railway, equipped with electric motors, are operated. The streets are lighted with 219 arc electric lamps, owned by the city and operated in connection with a fine system of water works. There are two commercial electric-light plants and gas works. The city has a complete telephone system, steam fire and chemical engines, and a paid fire department. It has more miles of brick pavement than any other city of its size in the world. There are 9 public-school buildings, attended by 4,500 pupils, besides a business college and a musical college, 24 churches, a turn hall, a new opera house that cost \$40,000, and a public-library building that cost \$24,000 and contains 10,400 volumes. The Illinois Wesleyan University was established in 1852, and in 1889 had 500 students in all departments, 21 instructors, and a library of 3,500 volumes. Three daily and 8 weekly papers are published. Bituminous coal of superior quality is mined here, the mine employing 350 men and having a capacity of 500 tons a day. Six lines of railway meet here. The construction and repair shops of the Chicago and Alton Railroad cover 13 acres, with the yards, and employ 1,800 men. There are 3 building and loan associations and a national association with \$20,000,000 capital, a mutual

life-insurance company, and 4 national banks. Two large flouring mills, a plow factory, steam-radiator works, foundries, stove works, cigar factories, and numerous thriving industries are found here. The city has a large retail trade, being one of the chief agricultural centers of the richest section of central Illinois. Its wealth of shade trees has given it the name of "the Evergreen City," and it is sometimes known as "the Rochester of the West," owing to the fact that 6 large nurseries are located here, one of which covers 600 acres. The city of NORMAL is practically a part of Bloomington, though it has a government of its own. The two are connected by street cars. The State Normal School, with more than 600 pupils, is located here, as is also the Illinois Soldiers' Orphans' Home, with 400 inmates. Normal is the greatest Norman-horse shipping-point in the country; it is surrounded by hundreds of acres devoted to the cultivation of small fruits, and thousands of crates of strawberries, raspberries, and blackberries and tons of grapes are shipped annually. Bloomington is on the highest land in the State and is remarkably healthful and pleasant.

Brockville, the chief town and county seat of the united counties of Leeds and Grenville, Ontario, Canada. It is on the north bank of the St. Lawrence, at the foot of the Thousand Islands, midway between Toronto and Montreal. Brockville has a population of 9,000, and possesses extensive iron foundries, agricultural implement works, glove works, dye-wood mills, edge-tool works, etc. It is the market town of a rich and prosperous agricultural and dairying district. The Brockville Cheese Board is the most important in the province, 200 factories being represented at its weekly meetings, the annual average value of whose output is more than \$2,000,000. It has some of the finest public buildings and business blocks in the province. The assessed value of the town is \$3,565,984, and there is exempted property to the value of over half a million more. The total bonded indebtedness of the town is \$175,000, which includes the outlay for a fine system of sewerage just completed, aid to railways, etc. There is a Holly system of water works, electric fire alarm, a paid fire brigade, and a salvage corps. There are 2 electric-light companies and gas works. The educational institutions include the Collegiate Institute, business college, art school, 5 public schools, and a kindergarten. There is also a Mechanics' Institute, with a library of over 4,000 volumes, a Roman Catholic separate school, and a convent school for young ladies. There are 12 churches, 2 daily and 2 weekly newspapers, 3 banks, 10 hotels, a general hospital, and a Roman Catholic hospital. The town has a divisional headquarters on the Grand Trunk Railway, and is the southern terminus of a branch of the Canadian Pacific Railway and the southern terminus of the Brockville, Westport and Sault Ste. Marie Railway. It is connected with the American system of railways at Morristown, N. Y., on the opposite side of the river, by a ferry boat capable of carrying five cars. A company has been organized to build a railroad bridge across the river at this point, and a part of the preliminary work is already done. Brockville is an important lumber-distributing point.

Canandaigua, a village and the county seat of Ontario County, New York, on the southern and western faces of two low-lying hills at the foot of the lake of the same name, at the junction of the Northern Central, a branch of the Pennsylvania system, and the Auburn branch of the New York Central Railroad, at the northern terminus of the lake steamboat lines, the outlet of the lake trade. The population in 1890 was 5,847. There are 2 flouring mills, spring-tooth harrow and chill plough factories, iron works, a brick yard, a brewery, 2 planing mills, gas works, and a grain elevator. The town has 7 churches, 2 opera houses, 3 hotels, 3 banking houses, and 3 weekly papers. The Union School, Boys' academy, Granger Place School, Upham School, and parochial school afford exceptional educational facilities. The closing decade has witnessed many marked improvements in the business, social, and intellectual advantages of Canandaigua. There are extensive water works, a street-car service, and an arc and incandescent electric plant. The village authorities maintain a thoroughly organized voluntary fire department, and have recently equipped it with an electric fire-alarm system. They also maintain a well-equipped police force and an efficient streets department. There is a commodious clubhouse, while the Masonic, Ancient Order of United Workmen, and several mutual insurance societies maintain lodges. The union of the public schools with an adjoining district and their reorganization have produced a marked effect upon the attendance and the facilities of instruction. The Board of Education have in process of construction extensive additions to their buildings. The New York Central Railroad has recently completed one of the handsomest stations on this road at a cost approximating \$35,000.

Carthage, the county seat of Jasper County, Mo., on Spring river, in the southwestern part of the State, at the crossing of the southern branch of the Missouri Pacific Railroad and the main line of the St. Louis and San Francisco road. The county seat, which was located in 1842, during the civil war was entirely deserted and destroyed, but three houses being left when peace was declared. The census returns for 1890 show a population of 8,962, an increase in the last decade of 4,795. Taking in the population of the proposed addition, which has not yet been admitted, would swell the figures to 10,000. One hundred and seventy-six residences were constructed during 1890, and yet the supply falls short of the demand. The enumeration of school children in the spring of 1890 showed 3,310. The valuation of school property was \$200,000, and the assessed valuation of the city \$1,806,079, which is about one third of its actual value. The city is provided with a new central high school, a central building, 4 ward schools, and a colored school, employing 36 teachers; a college under the auspices of the Presbyterian Church, a private seminary, a Catholic convent, a commercial college, and a school of music. The schools are well supplied with philosophical appliances, and there is a public library containing 4,000 volumes. The city has a complete line of water works (with thirteen miles of mains), five miles of street railway, electric light, and gas. The railroads have made extensive im-

provements in side-tracks, buildings, etc., preparatory to building three new lines, already surveyed, that will center here. The notable buildings are the city hall, an opera house, a new theatre, 4 large hotels, and 14 churches. There are 5 banks, and 4 weekly, 3 daily, and 3 monthly papers. The city has two parks and finely shaded streets. Its manufacturing industries include 4 flouring mills, a foundry and machine shop, 2 woolen mills (one of which turns its entire product into clothing in a separate building), wagon and carriage factories, dynamo and electric-light apparatus, bed springs, wind-mills, brooms, an ice factory, lime kilns (with a daily capacity of 875 barrels), brick yards, a plow factory, an extensive pottery plant, and stone quarries, which supply neighboring cities with hundreds of car loads. More than \$100,000 are invested in this industry. There is a fair ground on which the improvements cost \$26,000. The freight shipments and receipts for 1889 were 13,520 cars. The mineral output of the county for 1890, in zinc and lead ore, aggregates more than \$4,000,000. The mines in close proximity to Carthage, less than a year old, yield \$6,000 weekly. Jasper County has fine agricultural lands, and an immense fruit product.

Cedar Rapids.—A city of Iowa, on both banks of Cedar river, near the center of the county of Linn, 225 miles west of Chicago. It is one of the largest cities in the State, and ranks among the first in commerce and manufacturing. East and West Cedar Rapids are connected by four iron highway bridges, which cost \$140,000, and by three railroad bridges. It is regularly laid out, and has an opera house, a Masonic library, and a Young Men's Christian Association building. The charitable institutions are the Home for the Friendless, Old Ladies' Home, and St. Luke's Hospital. The population in 1870 was 6,000; in 1880, it was almost 11,000; in 1890, it was 18,000. The city is governed by a mayor and 18 aldermen. The fire department consists of 10 companies and 50 fire policemen. There are 6 banks, 2 daily papers, and 5 weeklies. The city is lighted with gas and electricity. It has water works of almost unlimited capacity. The system consists of 3 large engines and 3 artesian wells, furnishing 1,300,000 gallons a day. Cedar Rapids is an important railroad center. The Burlington, Cedar Rapids and Northern Railway system has here its shops and general offices. They employ about 500 men, in building engines, coaches, freight cars, etc. The Chicago and Northwestern, the Chicago, Milwaukee and St. Paul, the Chicago, Rock Island and Pacific Railways are also of importance to it, as the main line of these great systems runs through the city. T. M. Sinclair & Co's, packing house employs one thousand men. The oat-meal mills, boiler works, elevators, linseed-oil works, Star wagon works, pump factory, plow factory, broom factory, woolen mills, cracker factories, planing mills, and machine shops are the principal manufactures. The Farmers' Insurance Company was organized in Cedar Rapids. There are 11 public schools, including a high school, presided over by 89 teachers. The enrollment is nearly 4,000. There are 9 large brick buildings, some of which are among the finest in

the country. The valuation of school property is over \$226,000. Coe College, under the care of the Presbyterian Synod of Iowa, was organized in 1881. The Cedar Rapids Business College is one of the largest and most successful in the State. St. Joseph's Academy has steadily grown in favor, and each succeeding year adds largely to the enrollment list of pupils. The first house of worship was erected by the Presbyterians in 1850. Of the organizations and missions the Presbyterian Church has 4; the Methodist Episcopal, 3; Protestant Episcopal, 2; United Presbyterian, 2; Congregational, 2; Catholic, 2; Christian, 2; United Brethren, 2; Evangelical, 2; and the Lutheran, Bohemian Catholic, Jewish, and African Methodist Episcopal, 1 each. The valuation of church property is over \$417,000.

Charlottesville, a city and the county seat of Albemarle County, Va., at the intersection of the Chesapeake and Ohio and the Piedmont Air Line Railroads, in the central portion of the State, equally distant three hours by rail from Washington and Richmond. A charter has been obtained for another railroad, making a second connection southward. There are 16 passenger and 60 freight trains daily. The population in 1870 was 2,838; in 1880 it was 2,676; and in 1890 it was 5,562, an increase of 2,886 (107.84 per cent.). Charlottesville possesses a fire department, and water works supplying water from a reservoir six miles distant in the mountains, with pressure of gravity to throw a stream 100 feet above the highest houses, gas and electric lights, street cars, and a steam dummy line under construction. The drainage is good. Albemarle County, containing 755 square miles, produces fruits, tobacco, corn, wheat, oats, and hay. Vine growing was first attempted near Charlottesville in 1870, \$50,000 capital being invested and 7 negroes employed. At present there are 28 vineyards near the city, which contains 3 wine-cellars, and the annual output of wine in the county is 100,000 gallons. Albemarle County wines were awarded the silver medal at the Paris Expositions of 1878 and 1889. About one fifth of the wine is consumed in Virginia. There are also 1 soapstone and 2 slate quarries in the county, the former worked successfully since 1883. Charlottesville's manufactures include woolen mills, with capital of \$250,000, employing 110 persons, a knitting, a spoke-and-hub, and a slate-pencil factory, agricultural machine works, planing mills, 2 flouring mills, 3 sash, door, and blind, 3 cigar, 2 carriage and wagon, and 1 ice factories, and 2 bottling works. There are 2 banks, 2 building and loan associations, and 3 weekly newspapers. The University of Virginia, with an outlay of \$1,500,000, established by Thomas Jefferson, is at Charlottesville, and stands at the head of the free-school system. There are 30 professors and 500 students. The Miller Manual Labor School, having an endowment of \$1,500,000, for the benefit of the city and county, is near the city. There are also 2 large male schools and 2 female institutes. The churches number 14. There are 2 depots and 3 hotels, 2 larger hotels being under contract. The average annual rainfall is 35 inches, and the death rate 11.02 per thousand. Monticello, the home of Jefferson, is within 3 miles of Charlottesville.

Clinton.—A city, the county seat of Henry County, Mo., 227 miles west of St. Louis, 78 miles from Kansas City, and 75 miles from Fort Scott. The population in 1870 was 1,640; in 1880, 2,869; in 1890, 4,721. It is a railroad center, is crossed by the Missouri, Kansas and Texas, the Kansas City, Clinton and Springfield branch of the Kansas City, Fort Scott and Gulf, the Kansas City and Southern, and the survey of the St. Louis, Kansas City and Colorado. Its assessed valuation for 1889 (not half its true value) was \$1,259,220. Large coal fields are found in all parts of the county; mines of the best quality of bituminous coal are worked within a mile of the city; and fine quarries of building stone are operated within the city limits. Clays of the best quality for stone ware, sewer pipes, and the finest vitrified brick, and mineral paints are found within the city limits. The city has 2 flouring mills, one having a capacity of 300 barrels daily, and a third under construction of 500 barrels daily; 2 potteries, one having a capacity of 1,250,000 gallons of ware a year, and a furnace to reduce iron ore is being built; 1 daily and 3 weekly papers, 5 banks, steam-fitting works and machine-shops, 2 carriage factories, 2 broom factories, 3 steam corn shellers, 2 steam corn-meal mills, and an elevator; 3 hotels, 9 church buildings, Young Men's Christian Association rooms and public library; the Clinton Library Association and library of 425 volumes; gas and electric-light plants and a street-car line. The Odd Fellows, Masons, Knights of Pythias, Knights Templars, fire companies, hook-and-ladder companies, and other societies maintain organizations. There is a fine system of water works, with gravity and force combined, which cost \$100,000; ten miles of mains, supplied with clear, pure water that rises from an artesian well 840 feet deep into the reservoir, in a volume sufficient for a city of 50,000 inhabitants. The macadamizing of the public square and business streets in the most substantial and expensive manner and other street improvements have recently been completed at a cost of \$48,000. The public-school building, one of the finest in the West and the largest in the State, cost \$49,000. Clinton Academy, founded in 1879, chartered in 1885, is open to both sexes, has an average of 100 students, a library of 300 volumes, and the usual apparatus. Baird College was founded in 1885, and with its apparatus cost \$65,000. It was opened for pupils Sept. 29, 1885, is amply provided with all the appliances for thorough work, and has an attendance larger than that of any similar institution in the State. Clinton's great artesian mineral well, one mile from the public square, flows 800,000 gallons a day of clear, pure, white sulphur mineral water, through an iron pipe 8 inches in diameter, from a depth of 800 feet below, to 12 feet above the surface of the ground. It is fast becoming celebrated as a watering place, and has hot and cold sulphur baths, and a five-acre lake supplied from the mineral well.

Columbia, a city, the capital of South Carolina and the county seat of Richland County, slightly west of the center of the State, in latitude 33° 59' 58". The city is on a promontory of granite 200 feet above the east bank of Congaree river, at the junction of the Broad and

the Saluda, and 336 feet above sea level. Columbia was established as the seat of government of South Carolina in 1786. It was incorporated in 1787, and the Legislature met there two years later. The streets are from 100 to 150 feet wide, with three rows of shade trees. Much wealth was expended upon its attractions before the civil war, and there are many beautiful residences, surrounded by large gardens in which flowers bloom nine months in the year. It has become a resort for Northern invalids afflicted with pulmonary complaints. The annual mean temperature is 67°. During the war, the business portion of the city was destroyed by fire, but it has been rebuilt. Columbia is the most important business point in the middle section of the State. Six railroads enter the city and a seventh is being built, which will place it on the shortest line from New York to Jacksonville, Fla.; \$350,000 have been expended by the State and city in opening the Columbia Canal, which is nearly completed, and which, it is estimated, will furnish 15,000 horse-power in the corporate limits and will make Columbia a great center of cotton factories. The population in 1870 was 9,288, half of whom were colored; in 1880 it was 10,036; and in 1890 it was 14,508, an increase of 4,472 (44.56 per cent.). The assessed valuation of real estate and personal property is upward of \$4,500,000. There are 3 banks, with aggregate capital of \$200,000. In 1890 there were in operation 3 cotton-seed-oil mills, 1 cotton factory, a bent-wood furniture factory, iron foundries, steam and planing mills, a boot and shoe, a hosiery, and 2 fertilizer factories, a cotton compress, granite quarries, and many smaller industries. There are churches of all denominations and mission chapels in various parts of the city. In addition to the public schools for white and colored children are the Columbia Female College, with an attendance of 150, and the South Carolina College for Women; and for colored persons, the Benedict and Allen Institutes, with aggregate attendance of 350. The University of South Carolina, founded in 1801, covers an area of 20 acres. The library has a fine building, and contains nearly 30,000 volumes. The students in all departments number 250, and tuition is free. There is a Presbyterian Theological Seminary, established in 1830. The public buildings are the State House, of granite; the post-office and United States court house; the State Lunatic Asylum, occupying 3 principal buildings, with a small theatre attached capable of holding 500 persons; and the Penitentiary, occupying 20 acres. There are two monuments, one to the Confederate dead, and one to South Carolinians who fell in the Mexican War, the last in the shape of an iron palmetto tree. The State Agricultural and Mechanical Association holds annual meetings at its property in the suburbs of the city.

Corning, a city and the half county seat of Steuben County, N. Y., 292 miles west of New York city, 134 miles east of Buffalo, and 93 miles south of Rochester. The city is on the main line of the New York, Lake Erie and Western and the Delaware, Lackawanna and Western Railways. The Fall Brook Coal Company's system of railways brings it within easy reach of the bituminous coal fields of northern Pennsyl-

vania. Its railroad facilities make it the outlet of a vast mining, agricultural, and lumbering region. The population in 1890 was 8,553, an increase of 11 per cent. since 1880. The village of Corning was incorporated in 1848 by Erastus Corning, of Albany, and was named after him. It was chartered as a city in 1890. The valuation of property is nearly \$3,000,000, which is much under the actual commercial value. The bonded debt is \$50,000. The city is lighted with electricity, and its main business streets, to the extent of more than a mile, are well paved. It has a system of water works, now leased, which will revert to the city in sixteen years, and there is also a complete system of sewerage. There are 2 banks; 7 churches, with an aggregate membership of about 3,000; 4 public schools, with an enrollment of 2,000; a free library; 1 daily and 1 weekly newspaper and 1 bi-monthly journal. The only public building is the court house. In the manufacture of tobacco Corning does a business of \$100,000 yearly. Other products of importance are beer, flour, stoves, and foundry work of all kinds. Nearly 1,000 persons are employed in the making or cutting of glass; and one of the establishments received the grand prize at the Paris Exposition in 1888. The aggregate trade of the city in a year is estimated at \$3,000,000. A feature of the city is a handsome stone tower, containing a town clock, the gift of Erastus Corning to the municipality.

Cortland, a village, the county seat of Cortland County, N. Y., at the intersection of the Syracuse, Binghamton and New York and the Elmira, Cortland and Northern Railroads, 47 miles by rail from Binghamton, 37 miles from Syracuse, and 70 miles from Elmira. The population in 1870 was 3,066; in 1880, 4,050; in 1890, 8,708. The village is lighted by 50 arc lights of 2,000 candle power each and 700 incandescent lights of 20 candle power each, and is supplied with spring water, both for domestic and fire purposes, distributed through 15.2 miles of mains, using 120 hydrants. The Union system of telegraphic fire alarms is in operation. The Cortland post-office is rated in the second class. The following is the statement of its business for the year ending June 30, 1890: Received for postage, \$20,749.35; salaries and expenses, \$11,205.77; net revenue, \$9,543.58; money-order business, \$76,486.57; volume of business for the year, \$97,235.92. The force consisted of 4 clerks and 6 carriers. Three newspapers are published in the village. There are 9 churches. The Franklin Hatch Public Library, opened in 1888, has 3,000 volumes. The Young Men's Christian Association also supports a public reading-room. The Cortland Normal and Training School was opened March 3, 1869. The grounds and building were contributed by the village at a cost of about \$100,000. Since the opening of the school there have been registered 3,243 normal students, of whom 1,212 were men and 2,031 were women. The whole number graduated is 797. The public-school system of the village was established in 1880. Seventeen teachers are regularly employed, with an average attendance of nearly 900 pupils. The importance of Cortland as a manufacturing center may be seen from the following table of incorporated companies and associations doing business there:

NAMES.	Kind of goods.	Capital.	No. employees.
Cortland Wagon Co....	Wagons and sleighs.	\$400,000	500
Hitchcock Mfg. Co....	Wagons, sleighs, snows, traps, etc.	200,000	500
Cortland Mfg. Co. (Hm.)	Wagons and sleighs.	80,000	10
Homer Wagon Co. (Hm.)	Wagons and sleighs.	10,000	125
Cortland Cart and Carriage Co.....	Wagons and sleighs.	10,000	35
Cortland Omnibus and Cab Co.....	Omnibus and cabs.	12,000	45
Cortland Door and Window Screen Co.....	Screens for windows and doors.	25,000	75
Excelsior Top Co.....	Carriage tops and trimmings.	85,000	40
Cortland Top and Rail Co.....	Carriage, tops and rails.	50,000	75
Cortland Harness Co..	Harness.	85,000	55
Cortland Box-Loop Co.	Harness trimmings.	85,000	55
Howe Ventilating Stove Co.....	Stoves.	90,000	90
Cortland Desk Co....	Wall-desks.	25,000	30
Cortland Chair and Cabinet Co.....	Chairs.	50,000	50
Cortland Lumber Co....	Lumber.	20,000	
Cortland Water Co....		100,000	
Wickwire Bros.....	Wire and wire goods.	100,000	300
H. F. Benton.....	Doors, sash, and blinds.	20,000	30
Cooper Bros.....	Foundry and machinists.	25,000	25
George McKeel.....	Stamped metal.	7,000	6
Forging Co.....	Carriage irons.	80,000	50

There are 3 national banks with an aggregate capital of \$350,000 and a savings bank. A street railroad 3 miles long connects Homer with Cortland. On Aug. 21, 1890, the village was struck by a tornado, which did damage to the amount of \$15,000.

Dallas, the county seat of Dallas County, Texas, on the right bank of Trinity river, in the northeastern part of the State, 315 miles from Galveston, 215 from Austin, and 265 from Houston. The population in 1880 was 10,358; in 1890 it was 38,140, an increase of 27,782 in the decade (268.22 per cent.). The assessment of the city in 1880 was \$4,100,340; in 1887, \$11,908,346; in 1888, \$13,811,639; in 1889, \$21,560,417; and in 1890, \$31,556,350 on a basis of 60 per cent. valuation. The total debt of the city is \$1,518,600, and the tax rate \$1.50 on the \$100. The number of buildings constructed in 1888-'89 was 743, at a cost of \$2,998,788; and in 1889-'90 769 buildings were constructed, costing \$4,260,030. The railroads running into Dallas are the Texas and Pacific, the Missouri Pacific, the Houston and Texas Central, the Gulf, Colorado and Santa Fé, the Dallas and Waco, the Dallas and Greenville, the Texas Trunk, and the Dallas, Pacific and Southeastern. There are also telegraph and telephone facilities. The total of wholesale and retail trade of the city in 1889 was \$27,050,000; in 1890 it was \$40,710,000. On Jan. 1, 1890, there were 13 miles of street railway in operation, with 5 miles in course of construction and 2 rapid transits. There are 40 miles of paved streets and 60 miles of sidewalks. During the past four years 14 miles of street have been macadamized, 12 paved with *bois d'arc*, and 44 miles of cement sidewalks have been constructed. There are 22 miles of sewers, which cost \$200,000. Electric lights and gas are in use. The water works are of the pump and reservoir system, together with an artesian well, and there are 45 miles of mains costing \$500,000. There is a fire alarm, with

205 hydrants and 3 cisterns. There are 11 banks, the capital and surplus being \$3,840,000. The clearings for eight months of 1890 were \$80,383,756.08. The aggregate of loans of 22 European and American agencies is \$10,000,000 yearly, and there are 8 local and 2 branch building and loan associations. There are 44 churches and 14 public schools, and the total valuation of school property is \$227,600; 76 teachers are employed, and the enrollment is 4,685. A classical course can be taken in the high school. There are 19 private schools and academies, including 4 business colleges, 1 school of fine arts, a convent and Catholic parochial school, and an Episcopal college. A university is also in course of erection under the auspices of the Christian Church. The manufactories in operation in 1889-'90 numbered 127, employing 2,700 hands, with capital to the amount of \$3,780,000. The capacity of the cotton and woolen mills is 14,000 yards daily, and the daily consumption of cotton is 25 bales. A grain elevator has been erected, with a capacity of 1,000,000 bushels, and there are 4 flouring mills, with aggregate capacity of 2,000 barrels a day. A meat-puckery is under construction, to cost \$300,000. Other establishments are for the making of wearing apparel, harness and saddlery, mattresses, spring beds, and show-cases, and there are 12 lumber yards, 8 planing mills, and 2 sash and door factories. The total number of business concerns of all classes is 1,700, of which 29 are wholesale agricultural implement houses. The State fair is held annually at Dallas, the grounds covering 120 acres, with race-track. Three parks have a total area of 290 acres. A county court house is under construction, to cost \$350,000. There is a city hall, a county jail, a United States court house and post-office, an opera house costing \$60,000, a Merchants' Exchange, an Armory Hall, a Christian Association, a Hebrew Society, and other halls. The hotels number 32, and a large one, 7 stories high, is under construction, to cost \$500,000. There are 2 daily and several weekly newspapers. Dallas County has an area of 900 square miles and a total railroad mileage (in 1889) of 169.46 miles. The assessed value of the county, real estate and personal property, in 1888 was \$26,856,750. The production the same year was: Cotton, 29,186 bales, valued at \$1,235,812; corn, 2,294,440 bushels; wheat, 978,500 bushels; oats, 1,708,000 bushels.

Danville, a city of Pittsylvania County, Va., on Dan river, 66 miles above its confluence with the Staunton to form the Roanoke. It is 65 miles from Lynchburg, 141 from Richmond, and 236 from Washington, on the Richmond and Danville Railroad, which at this point branches into several divisions. Other roads are the Atlantic and Danville and the Danville and New River, and others are in contemplation. The city is connected by an iron bridge with North Danville. The population in 1870 was 3,463; in 1880 it was 7,526; in 1890 it was 10,285, an increase of 2,759 (36.66 per cent.). The total amount of tobacco brought in leaf to Danville in eighteen years is 500,000,000 pounds, valued at \$60,000,000. The total tobacco trade of 1885 was \$7,707,348, of which \$5,554,599 was sold in leaf and \$2,010,084 manufactured. In 1888 5,300,000 pounds were manufactured; in

1889, 7,582,000 pounds. In 1890, 160 large brick buildings were employed in the business, with 3 others under construction, and 6,000 persons are employed. Of the laborers employed in the tobacco business, nine tenths are negroes. Whites are employed in the cotton factories to the number of 1,300. The capital invested in mills, aggregating 40,000 spindles, is \$1,500,000. There are 2 grist mills, 1 large flouring mill, 3 cooperages, 2 iron-working establishments, 1 furniture, 2 candy, 2 sash and blind, 1 ice, 1 chair, 2 box, and 1 buggy factories. Power is supplied from a canal 3,500 feet long. The water and gas works, the electric-light plant, and the fire-alarm system are owned by the city. The rate of taxation for all purposes is 1.65 per cent., and the assessed valuation of property in 1885, including North Danville, was: real, \$5,513,357; personal, \$2,298,400. Danville has 8 banks, with aggregate capital of \$1,000,000, and 6 building and loan associations. There are 1 daily and 3 weekly newspapers and 3 hotels. A tabernacle has been recently erected capable of holding 5,000 persons. The private schools are Roanoke Female College (Baptist) and Methodist Female College, with the Danville Military Institute. A home for the sick is maintained by the churches and by charitable citizens.

Davenport, a city of Iowa, the capital of Scott County, on west bank of Mississippi river, opposite the cities of Rock Island and Moline in Illinois, with which it is connected by free bridges. Between these three cities, on an island in the river, is the national armory and arsenal, on which the Government has expended \$10,000,000 in buildings and improvements. Davenport is 168 miles west of Chicago, 318 east of Omaha, 332 north of St. Louis, and 397 south of St. Paul, as the river runs. It is regularly laid out, and has many imposing buildings, prominent among them being the court house, recently erected at a cost of \$175,000; the Rock Island Railway car shops, \$200,000; the Masonic Temple, \$75,000; and Turner Hall, \$85,000. The population of Davenport, according to the Federal census of 1880, was 21,831; according to the State census taken in 1885, 24,999; in 1890 it was 28,500. Davenport has 4 national banks and 3 savings banks. The number of savings-bank depositors exceeds 10,000, and the aggregate of their deposits is more than \$6,000,000, which is four fifths of the amount deposited in all the other savings banks in Iowa. The Chicago, Rock Island and Pacific, the Chicago, Milwaukee and Saint Paul, the Chicago, Burlington and Quincy, the Burlington, Cedar Rapids, and Northern, and the Rock Island and Peoria Railways compete for the business of Davenport, while the Mississippi river provides water communication with the West and Northwest. The product of the Davenport factories in 1889 was valued at \$15,000,000. The number of manufacturing establishments exceeds 200, and the articles produced include lumber, glucose sirups and sugars, agricultural implements, malt, clothing, cigars, crackers, candies, blank books, and furniture. The saw mills cut 100,000,000 feet of lumber yearly, and the grain houses and elevators handle grain to the value of \$10,000,000. Davenport has an excellent system of water works, with 33 miles of mains and 320 fire hydrants. It has

20 miles of street railway. The public schools employ 110 teachers and occupy 10 buildings. There are two prosperous business colleges, with a large number of students. Griswold College, under the care of the Protestant Episcopal Church, has valuable property and considerable endowment. This institution includes Kemper Hall, a boarding and day school for boys, and St. Katharine's Hall for girls. Both these institutions have a wide reputation and attract pupils from distant States. St. Ambrose's Academy and the Academy of the Immaculate Conception, for boys and girls respectively, are under the control of the Roman Catholic bishop of Davenport. Both institutions have handsome buildings and a wide patronage. The Soldiers' Orphans' Home is a State institution in the suburbs of Davenport; its buildings and grounds are extensive, and it provides a home for more than 300 poor children. Davenport has 5 daily papers (4 in the English language and 1 in German) and has 6 weekly papers (3 English, 2 German, and 1 Swedish). There are 35 religious organizations, nearly all having houses of worship. The Academy of Natural Sciences is a prosperous institution. Its museum contains large and remarkably valuable collections, especially rich in remains of the mound builders. The Library Association has a valuable library and a building of its own. Davenport was laid out in 1836, and became a city in 1851.

Elgin, a city of Kane County, Ill., on both banks of Fox river, which is spanned by three wooden bridges, and on the Chicago and North-western and Chicago, Milwaukee and St. Paul Railroads, 36 miles west-northwest of Chicago; population in 1890, 17,000. The streets are broad, the public and business buildings of brick and stone, and there are many shade trees. There is good water power, good water supply, and fire protection with 200 hydrants; electric street lighting, and an electric street railroad in process of construction. The water and street-lighting plants are owned by the city. It is noted as the seat of the national watch factory established in 1866, which employs nearly 3,000 persons, many of them women, and manufactures between 400 and 500 watches daily. It has 2 milk-condensing companies, a board of trade for dairy products, butter and cheese factories, 2 national banks, 1 savings bank, a loan and homestead association, 1 large publishing house (employing 300 persons), 2 private electric-lighting companies, a public library, 2 daily and 5 weekly newspapers, 18 churches, 12 public-school buildings (pupils enrolled 2,549, teachers 52), and 4 private schools. The property valuation in 1888 was \$8,224,539; the municipal indebtedness, \$137,000; school indebtedness, \$66,000; total, \$203,000.

El Paso, a city and the county seat of El Paso County, Texas, on Rio Grande river, in the extreme western part of the State. It is the headquarters of one of the largest customs-revenue districts in the country. The population in 1880 was 736; in 1890 it was 10,830, an increase of 10,100 (1,372:28 per cent.). El Paso is a smelting center for the minerals found in Texas and neighboring sections of Mexico, being the outlet into that country through the Texas Pacific and Southern Pacific Railroads, which connect

there with the Mexican Central. In 1889 there were 2 ore smelters, with capital of \$200,000, employing 300 men, and consuming raw material to the value of \$3,000,000. The value of the product was \$3,835,000. In 1882 the value of imports of coin and bullion in the customs district of Paso del Norte, of which El Paso is port—was \$313,753; in 1885, \$9,860,301; and in 1888, \$13,967,142. The total value in seven years ending June 30, 1888, was \$55,678,676. The total of collections by the custom house on articles of all sorts in the same period was \$370,065.74. The exports to Mexico from the United States, through El Paso, in 1887 and eleven months of 1888, were valued at \$11,087,087.96. The city is also the headquarters of large cattle interests of the two countries, and has a large refrigerating company for preserving meats. The capacity in 1889 was for 100 beeves, 100 sheep, and 100 hogs, and 66,000 pounds of ice were manufactured daily. The other industries in 1889 were a foundry and machine company, 2 cigar factories with capacity of \$21,000, 1 planing mill, 1 candy and 2 ice factories, 1 marble works, and 1 grist mill. The mercantile establishments number 115. Three national banks have an aggregate capital of \$350,000. The assessments of the city in 1889 showed taxable values amounting to \$5,870,325, including \$1,343,837 of personal property and \$1,209,582 in city improvements. There are 3 daily and 4 weekly newspapers; one of the last is in the Spanish language. The custom house erected at El Paso by the United States Government cost \$150,000.

Emporia, a city, county seat of Lyon County, Kan.; population in 1890, 7,550. It is beautifully situated on a rolling prairie between Cottonwood and Neosho rivers, a few miles above their confluence, and has good natural drainage. The reservoir system of water works was completed in 1888 at a cost of \$200,000, insuring an almost unlimited supply of water from Neosho river. The State Normal School, with an enrollment of 1,000 students, has 15 professors, and receives an annual income of \$28,000. The College of Emporia, established by the Presbyterian Synod of Kansas in 1884, has about 150 students. The building, of Cottonwood river limestone, is on a commanding elevation and displays much architectural beauty. The public schools of the city are of a high order. There are 33 teachers and an enrollment of about 1,600 pupils. Emporia has 14 church edifices. There are 4 banks, 3 daily papers, gas and electric lights, and street cars, but no saloons. The Atchison, Topeka and Santa Fé and the Missouri Pacific Railroads, with their numerous branches, afford facilities for transportation. The former has here extensive repair shops and stock yards. Emporia is the center of one of the best agricultural districts of the State. The bottom lands are rich and the yield of grain in favorable seasons is enormous.

Fitchburg, a half-shire town of Worcester County, Mass., 24 miles north of Worcester and 50 miles west of Boston. It was originally a part of Lunenburg, and was set off and incorporated a town Feb. 3, 1764; incorporated a city March 8, 1872. The population in 1885 was 15,375; in 1890 it was 22,007. The north branch of Nashua river flows through the

southern portion of the township, and along its banks the dense population exists. The outlying portions are hilly and sparsely populated, but there are many good farms. A marked topographical feature is Rollstone, a rounded hill of solid granite a little southwest of the city proper, rising about 400 feet above the river. Excellent granite has been quarried there in large amounts for several generations. Besides the city proper, there are the villages of West Fitchburg, Crocker-ville, Rockville, South and East Fitchburg, and Traskville. Fitchburg is well provided with railroad facilities, being on the Fitchburg Railroad (Hoosac Tunnel route), and thus having direct communication with Boston and also the great cities of the West. The Cheshire Division of the Fitchburg Railroad affords easy access to points north, and the Northern Division of the Old Colony Railroad furnishes means of reaching Worcester, the cities of southeastern Massachusetts, and New York city. More than 50 passenger trains arrive at and depart from the Union Passenger Station daily. The immense car shops of the Fitchburg Railroad are at East Fitchburg. Fitchburg is pre-eminently a manufacturing city. Machinery and steam engines are the principal products. A dozen large paper mills are in operation here, and about as many large cotton and woolen mills, besides innumerable smaller industries. The city has an abundant supply of pure water from brooks originating in the high hills to the northwest. The water is stored in four reservoirs, having an aggregate capacity of over 300,000,000 gallons and ranging in altitude from 216 to 450 feet above the river. There are more than 35 miles of street mains, and nearly 300 hydrants. The cost of these water works was about \$650,000. There is an efficient fire department, with fire-alarm telegraph system and a street railway, and the streets are lighted with electricity. There are 11 churches, some of them very expensive and handsome structures, 8 banks, the county court house (a massive granite building, in front of which is Monument Square containing the soldiers' monument), and the county jail in South Fitchburg. The Fitchburg Public Library, established in 1859, comprises about 20,000 volumes and is kept in the Wallace Library and Art Building, an ornate structure, the gift of the Hon. Rodney Wallace to the city. The city has school property valued at \$250,000. There are 20 school-houses, in which are kept 49 schools. About 70 teachers are employed.

Fort Scott, a city and the county seat of Bourbon County, Kan., on Marmaton river, distant from Kansas City 100 miles; from Sedalia, Mo., 120 miles; from Springfield, Mo., 100 miles; from Wichita, Kan., 160 miles. Fort Scott has the following railroads: The Missouri, Kansas and Texas, the Kansas City, Fort Scott and Memphis, and the Missouri Pacific; others are in course of construction. The Missouri Pacific Railway has machine shops here employing about 200 men. The Fort Scott and Memphis has repair shops employing about 40 men. The resources of the city and vicinity include coal in inexhaustible quantities; cement rock, making a quality of cement fully equal to that made at Louisville, Ky.; the best of limestone; flag stone; good clays for building brick and pottery, also fire clays under the

coal seams. There are several artesian wells producing a large supply of sulpho-mineral water. There are 3 foundries, one of which—the Fort Scott Foundry and Machine Works—is the largest institution west of St. Louis, employing about 300 men, and making a specialty of sugar and mining machinery. There are also large sugar works at which the manufacture of sugar from sorghum was first successfully demonstrated, a window-glass factory, 2 large cement works, 2 large potteries, 1 large roller flouring mill, and many smaller industries. The water works (with 15 miles of main), electric-light plant, illuminating-gas plant, light and fuel gas plant, each costing at least \$100,000. There are 7 miles of electric street railway, a complete telephone system, a Government court house and post-office (costing \$150,000), 3 daily and 4 weekly newspapers, and 4 banks. There is a normal college, 8 public-school buildings with 40 instructors, and 16 churches. The population in 1890 was 14,000.

Fostoria, a city of Seneca County, Ohio; population in 1890, 7,640. It is on the eastern edge of a great oil and gas district, and has 5 trunk-line railways. A pipe line surrounding the city to supply manufacturers with natural gas is operated by the city; also the line of the Northwestern Ohio Gas Company. It contains 7 glass factories in active operation, one being the largest window-glass factory west of the Alleghanies. The Harter Mills have a capacity of about 1,500 barrels of flour daily, making large shipments to Europe. The Cadwallader Milling Company, while not so extensive, will also have large capacity. The city contains a large buggy factory, a barrel factory, a stove factory, 4 planing mills, a box factory, 3 banks, 2 daily and 3 weekly newspapers. The city is building a system of water works at a cost of nearly \$300,000. In 1886 Fostoria had a population of about 4,000. There are 7 public-school buildings. The aggregate value of manufactured products is about \$3,000,000. The city offers practically free fuel to manufacturers who wish to locate there.

Galesburg, a city and the county seat of Knox County, Ill., on the Chicago, Burlington and Quincy and Chicago, Santa Fé and California Railroads, and the northern terminus of the Fulton County Railroad, 164 miles west-southwest of Chicago. The population in 1860 was 4,953; in 1870 it was 10,158; in 1880 it was 11,278; and in 1890 it was 15,212, of whom about one third are foreigners, the Swedish nationality predominating. It is surrounded by a rich farming region. The city has paved streets, electric lights, a street railroad, 2 opera houses, water works, several hotels, and many substantial public and private buildings. The Illinois headquarters of the Chicago, Burlington and Quincy Railroad are here, and also large shops and stock yards, this railroad alone employing more than 2,000 men at this point. There are 4 foundries, 4 large brick yards, an agricultural implement manufactory, besides a large number of smaller industries. Lombard University (Universalist) and Knox College (Congregational) are here. There are 41 professors and teachers and 800 students connected with these institutions. Both admit women. There are 10 public-school buildings, including a high school, having 52

teachers and 3,100 pupils. The city library contains 16,000 volumes. There are 5 banks (3 of which are national) having capital and surplus of \$700,000; 2 daily and 4 weekly newspapers and 3 monthly periodicals; and 19 churches, of which 4 are Swedish, 2 Catholic, 2 colored, and 1 German.

Geneva, a village of Ontario County, New York, at the foot of Seneca Lake; population in 1890, 7,346. The most desirable part of the village for residence is on a high bluff on the west shore, overlooking the lake, with a view not unlike those on the Rhine. Geneva is on the Auburn branch of the New York Central Railroad, the Fallbrook Coal Company's road, the Lehigh Valley, the Geneva and Lyons, and the Geneva and Buffalo (now being constructed). Here also begins the Seneca and Cayuga Canal, which connects Geneva with the canal system of the State. It has 3 fine steamers on the lake. Geneva is 40 miles from Watkins, 51 from Rochester, and 340 from New York city. Its fine paved streets are lined with handsome stores, and the broad avenues, lined with plats of grass and stately trees, abound in beautiful residences. Electric lights are generously distributed, and an abundance of pure water is carried to all parts of the town. An admirable system of sewerage and an efficient board of health make Geneva one of the most healthful places in the State. Among its natural advantages is the Geneva Mineral Spring. Many barrels of this water are shipped weekly. Geneva is the seat of Hobart College, erected in 1822. There are three public schools, with fine buildings, and another in course of erection. The Delancey Divinity School, the Delancey School for girls, and the Quincey School, besides a Roman Catholic parochial school, and two observatories complete the educational equipment. There are several fine hotels, and a large sanitarium, which is visited yearly by hundreds of patients. Geneva is the seat of the State Experimental Farm, which occupies a beautiful site west of the village. There is a board of trade, and a well-equipped fire department, with a system of fire alarms. The Thirty-fourth Separate Company, or Folger Guards, are to have a new armory, and the site has been selected. The Geneva nurseries form the greatest industry here. Hundreds of thousands of trees are shipped yearly, and the largest dealers in the world are located here. There are three banks and a loan association. The Manufacturers' Accident and Indemnity Company, with a reserve fund of \$50,000, employs a large corps of clerks, and is growing rapidly. The manufactories include stove works, a Cereal Company, boiler works, a canning factory, optical-instrument works, and a malt house. Three weekly newspapers are published.

Gloversville, a city of Fulton County, N. Y., on the Cayadutta, a branch of Mohawk river, 8 miles north of Fonda. It is connected with the New York Central and Hudson River Railroad by the Fonda, Johnstown and Gloversville Railroad, by the Johnstown, Gloversville and Kingsborough horse-car line, and also by a plank road. The route of the New York Canadian Pacific Railroad has been surveyed through the city. The city is among the foot-hills of the Adirondacks, and statistics show that it is one of the most healthful localities in the Union, the claim being

made that the death rate is lower than any other city of New York. Sixteen miles up the hills from Gloversville is Sacandaga Park, on Sacandaga river. This comprises about 100 acres well laid out and surrounded by numerous cottages for summer occupants. The climate of this region is mild and healthful, the mercury seldom rising above 85° or falling below zero. The earliest settlements in this locality were made about the close of the eighteenth century. The small hamlet was called the "Stump City" until 1828, when, on the occasion of establishing a post-office, it was named Gloversville. In 1830 it had but 14 houses. It was incorporated as a village in 1851 and as a city Feb. 19, 1890. The population by the United States census of 1880 was 2,163; by the census of 1890 it was 13,796. The 60 or 70 miles of streets in the city are substantially paved with cedar blocks, curbed with heavy flagging stone, and lined with shade trees. The water supply comes from mountain streams, and is led into 5 reservoirs, about three miles from the city, by the gravitation system. The reservoirs have an elevation of 250 feet above the business center of the city, and they have an aggregate capacity of 13,500,000 gallons. The water rates are low. The fire department has an electric fire-alarm system. The police department is well organized. Two plants furnish electric light for the streets and business houses, and also power for manufacturing. The assessed valuation of the city is \$4,000,000; and as there is no municipal debt, the taxes are moderate. There are 2 banks, 3 large hotels, and several building and loan associations. The city contains 14 churches and a Young Men's Christian Association, which has a building of its own. The public-school system is on a substantial basis, and higher education is cared for in the Union Seminary. The free library, founded by the Hon. Levi Parsons in 1880, contains 9,000 volumes, with a circulation of over 40,000 volumes per annum. Two daily newspapers, 2 semi-weeklies, 3 weeklies, and 2 monthlies are published. Gloversville is best known for its factories of gloves and mittens, of which there are 117. In addition to these, there are 17 glove and shoe leather factories, together with manufactories of carriages, glove and shoe dies, sewing machines, patent medicines, roofing materials, wood and paper boxes, wagons, and buttons. There are also machine shops, forges, engine shops, planing and saw-mills, and knitting mills. More than \$2,000,000 is invested in the glove industry. The manufacture of gloves in Fulton County began at Kingsborough in 1809, when a leather-dresser from Massachusetts came here to teach his art. The first skins used were those of deer, which the manufacturers of tinware received in exchange. The leather-dresser made a few pairs of rough mittens, which he bartered among the farmers and woodmen along the Mohawk. All of the gloves and mittens were cut and made by women, and were plain and rough, without any attempt at decoration. The mitten was marked out with a pencil, after a paper or wooden pattern, cut with shears, sewed by hand, and the seam pounded. The mitten was then placed between two boards, and the maker sat on them while making another pair. The disposal of the manufactured product was no easy task, and the

sale of a few dozen pairs to one customer was an achievement. Long and tiresome journeys were made in wagons filled with buckskin mittens and gloves. The first load of gloves ever driven into Boston was in 1825, the trip taking six weeks. In 1852 the first sewing machine was introduced. From 1856 to 1861 little progress was made in glove making but the impetus given to all business by the war brought other machines into the market, and large quantities of gloves were made.

Hamilton, a city of the province of Ontario, Canada, at the western end of Lake Ontario, 44 miles from Niagara river, 40 miles from Toronto, and 185 miles from Detroit; population, 45,414. It is the county town of Wentworth County. The first white settler was Robert Land, who came from Delaware in 1778. In 1813 George Hamilton surveyed a portion of his farm into village lots; in 1833 Hamilton was incorporated as a town, and in 1846 another act of incorporation was passed, extending the boundaries and making Hamilton a city. Before the era of railways Hamilton, being at the head of lake navigation, had a very large wholesale trade, the goods being received by steamboat and sent to the interior by wagon. The construction of the Great Western Railway, and the inflation of prices due to the Crimean War, caused a period of speculative expansion, followed by a depression of trade which lasted for nearly a decade. The population of the city was 21,855 in 1850, and only 21,485 in 1867; but during the twenty-three years succeeding the latter date the growth of population and wealth was steady. The buildings are of limestone or red brick, quarried or manufactured in the vicinity, though a few of the public buildings are constructed of red or brown stone from Pennsylvania, Connecticut, and New Brunswick. The assessed value of property is \$23,761,370, and the city's debt about \$2,700,000, of which \$2,000,000 will mature in 1894, the remainder being chiefly short-term loans for local improvements payable on the terminable annuity plan. The tax rate is 19 mills on the dollar. Hamilton lies on a level plain, extending about 2 miles from the mountain on the south to the bay on the north, the average altitude being 60 feet above lake-level, and the facilities for drainage being excellent. A ravine has prevented extension to the west, but the level plain eastward is unlimited. The water supply is brought from a point on Lake Ontario, about 7 miles distant, and the sewage is emptied into Hamilton Bay, a triangular land-locked harbor about 21 miles in circumference, separated from the lake by a sandy beach, admirably adapted and extensively utilized for summer residences and as a place for general recreation. The water is lifted to a reservoir on the mountain side by pumps, having an aggregate daily capacity of 14,000,000 gallons, and is distributed through 80 miles of pipes. The trunk sewers are of brick, and those on the side streets of vitrified pipe, the manufacture of which is an important local industry. The streets are paved with cedar block or macadamized, and the sidewalks are of stone, asphalt, and plank. Many of the avenues are shaded with rows of full-grown maple and chestnut trees. The city is lighted with gas and electricity, and a well-equipped fire department keeps the losses by fire

down to a nominal amount, often less than \$10,000 in a year. Hamilton has 2 Dominion Senators, 2 members of the House of Commons, and 1 member of the Ontario Legislature. The chief industry is the manufacture of stoves, carried on in 7 large foundries. There are also pipe works, rolling mills, a nail factory, car-wheel works, forge works, engine factories, cotton mills, breweries, a distillery, brass works, tin-stamping works, large clothing factories, screw factory, soap works, canning factories, furniture factories, carriage works, agricultural implement works, a manufactory of silver plate, tobacco and cigar factories, glass works, ship building, wire works, sewing-machine factories, and many minor industries. The schools include a ladies' college, a high school, model schools, and about 20 fine common schools, several of the larger buildings being capable of accommodating 1,000 children each. There is a well-equipped free public library, an art school, an historical society, and many literary and scientific clubs. Night schools are conducted, in winter, under the supervision of the Board of Education. The Roman Catholics and the Church of England have cathedrals in Hamilton, and there are numerous other churches, including two for the colored population. The largest insurance company in Canada has its headquarters in Hamilton. All the great banks have agencies, and there are several wealthy building and loan societies. The suburbs are made accessible by an extensive horse-car system and a dummy steam railway.

Hannibal, a city of Marion County, Mo., on the west bank of the Mississippi, 132 miles above St. Louis. The population in 1850 was 2,020; in 1890 it was 12,846. It is the eastern terminus of the Hannibal and St. Joseph and the Missouri, Kansas and Texas Railroads, the northern terminus of the St. Louis and Hannibal Railway, one of the western termini of the Wubash, and the Chicago, Burlington and Quincy Railroads, and a station on the St. Louis, Keokuk and Northwestern. It is also one of the most important landings on the river between St. Louis and St. Paul. The railroads have a fine union depot, where 28 passenger trains arrive and depart daily. The river is here spanned by an iron and steel railroad and wagon bridge. Its favorable location, with its shipping facilities, has conduced to a rapid commercial growth. It ranks first on the Mississippi for the production of lime, obtained from the hills that nearly encircle the city; and it is second only as a lumber market, its yards piling 150,000,000 feet during the current year. Its manufacturing interests embrace machine shops, foundries, tobacco and cigar factories, stove works, planing mills, pork-packing houses, saw mills, butter and cheese factory, and flouring mills. The manufactured product, with the jobbing interests and the fertile country behind it, furnish an immense tonnage for river and rail distribution. Its flouring product is favorably known abroad as well as throughout the North and East, direct shipments being made to Great Britain and Holland. The ice-storage capacity is 50,000 tons, this product being distributed by rail to southern points. The city contains a city hall, recorder's court, and jail, 2 fire-engine houses, 3 banks and

4 flourishing building associations with a combined capital of \$1,500,000. There are 6 school buildings, (with a seating capacity of 2,500 and a corps of 46 teachers,) a Catholic and a German Lutheran seminary, several private schools, and a number of literary societies. It has recently opened, with 4,000 volumes, the only free library and reading-room in the State. Among the notable structures are the Government building (erected at a cost of \$150,000, containing the post-office and apartments for the United States courts), the Park Hotel, opera house, Catholic, Christian, and other church edifices. There are 3 daily and 3 weekly newspapers, 1 semi-monthly, and 1 monthly periodical, and 14 churches.

Haverhill, a city of Essex County, Mass., is on the Merrimac river, about 18 miles from its mouth, and 31 miles from Boston. The town was settled in 1640, on land that was purchased two years later from the Indians. It was named from Haverhill, England, whence the Rev. John Ward, the first minister of the parish, came. It was incorporated a city in 1870, and in 1890 had a population of 27,320. The valuation is \$18,000,000. It has a public library of 50,000 volumes, an excellent city hospital, an old ladies' home, a children's home, and a chartered benevolent society. Its schools rank with the best in New England. It has many literary clubs and social organizations. A board of trade, organized in 1888, is an energetic factor in its prosperity. Before the days of railroads the position of Haverhill at the head of navigation on the Merrimac made it a trading center. Ship building then was an important industry, and from her four ship yards vessels sailed to all coast places, and to the West Indies and England. In the earlier days there were many and diverse industries; but with greater prosperity and more rapid growth the manufacture of shoes and hats has become the most prominent. The number of pairs of boots, shoes, and slippers annually made is about 8,000,000, while 111,000 cases of hats are shipped each year. Other important industries are the manufacture of woolen cloth and morocco, and foundry work. Haverhill has suffered three times from extensive fires. The last one broke out on Feb. 17, 1882, and destroyed with great rapidity a large part of its manufacturing district. Two million dollars worth of property and the places of business of 300 firms and individuals vanished before the fire was controlled. But from the ashes of the old sprang almost immediately better buildings, and the fire left as its results only an increased activity and a more vigorous business life. The most distinguished son of the place is the poet John Greenleaf Whittier, who has woven its legends into verse, and sketched in many a descriptive poem the beauties of its scenery. His birth-place, the scene of "Snow Bound," is visited by many each year.

Iowa City, the county seat of Johnson County, Iowa, on Iowa river, 80 miles from its mouth. From 1839 to 1857 it was the seat of the Territorial and State government. It is 130 miles from Des Moines, and 80 west of Davenport. Its railroad facilities are the Chicago, Rock Island and Pacific, running east and west, and the Burlington, Cedar Rapids and Northern, running north and south. Its population in 1850

was 1,250; in 1860 it was 5,214; in 1870 it was 5,914; in 1880 it was 9,000; in 1890 it was 6,793. It is the seat of the State University, a co-educational institution, founded in 1846, but of slight importance until 1860. The departments are collegiate, medical (both schools), law, pharmacy, and engineering. Each department has well-equipped laboratories, and in connection with the medical departments there are hospitals. Since the founding of the university 2,900 students have been graduated. The attendance in 1890 was more than 800; the number of instructors, 62. There is also a free night school for mechanics and others, with instruction in drafting and graphical mechanics. The public buildings include the court-house, city hall, opera house, and a new Young Men's Christian Association building erected at a cost of \$35,000 by the students' association. The rooms of the State Historical Society contain a library of over 4,000 volumes. There are 4 ward schools, an academy, a fitting school for the university with an attendance of 300, a normal school, a commercial college, a school of stenography and type-writing, and 4 Roman Catholic schools. There are 2 daily (1 Bohemian) and 4 weekly papers, 1 being published by the students of the university; also 2 semi-annual publications by the scientific department and the Engineering Society. Iowa City is the center of a large agricultural and stock-raising district. It has 3 banks. There are 3 flouring mills, an oil mill, a foundry, a machine shop, a pork-packing establishment, and smaller manufactories. The city is provided with gas, electric lights, and water works, and a system of sewerage is under construction. The river furnishes considerable power. There are large breweries, glucose works, glass works, and distilleries that are now of no value and not in operation owing to the prohibitory law and railway legislation. There are 18 churches.

Ithaca, a city and the county seat of Tompkins County, N. Y., chartered in 1888, is located at the head of Cayuga Lake. Population in 1880, 9,105; in 1890, 11,557. It is located about midway between the New York Central and Erie Railroads, and has rail connections with the former at Lyons, Cayuga, Auburn, Syracuse, and Canastota; and with the latter at Owego, Waverly, and Elmira. The Delaware, Lackawanna and Western and the Lehigh Valley Railroads give direct communication with New York city, and the latter connects it also with Philadelphia. Large quantities of coal are brought to this point by the above-named roads, and shipped by canal boats to Buffalo, New York, and intermediate points. During the summer a passenger steamer runs regularly between Ithaca and Cayuga, at the foot of the lake, 38 miles distant. Ithaca is the seat of Cornell University, an institution of phenomenal growth, founded by Ezra Cornell, who gave \$500,000 toward its establishment. It was incorporated in 1865, and opened to students in 1868. It is located in the eastern part of the city, on a hill about 400 feet above the level of the lake, giving a view from the campus of lake, valley, and distant hills of unsurpassed beauty. The university has a productive endowment of \$5,000,000, derived chiefly from the sale of lands located under land scrip

granted by Congress to the State of New York in 1862, and by the State Legislature to the university in 1865. The material equipment, consisting of the university farm, buildings, furniture, apparatus, library, museums, etc., is valued at \$1,500,000. Western lands are still held worth \$1,000,000. The equipment of the engineering department is believed to be the best in the United States, if not in the world. The institution has over 1,300 students, 40 full professors, 25 assistant and associate professors, 50 instructors, and 31 special lecturers. Both ladies and gentlemen are admitted as students on equal terms. One hundred and twenty-eight free scholarships are annually awarded by competitive examination to the best students in the several assembly districts of the State. The city has an excellent system of public schools, with an average attendance of 1,400, and 88 teachers. The Ithaca High School ranks among the largest and best secondary schools in the State, and is an important preparatory school for Cornell University—average attendance, 275; 9 teachers. There is also a parochial school, having 6 teachers and about 350 pupils. The Cornell Free Circulating Library, founded by Ezra Cornell in 1866, has over 16,000 volumes and an annual circulation of 28,000 volumes. It has a productive endowment of \$25,000. There are 2 national banks, with an aggregate capital of \$400,000, and a surplus of \$90,000, and a savings-bank, having deposits amounting to \$790,000 and a surplus of \$102,000, part of which has been invested in a bank building costing, with site, \$70,000. There are 1 daily and 3 weekly papers, and in addition, there are a daily and a weekly paper and a monthly magazine published by the university students. The city is lighted by electricity, and an electric street railroad connects the business center with the principal depots. There are gas and water works controlled by private corporations. It has an efficient fire department consisting of 7 hose companies and 1 company of protective police, and an equipment consisting of 2 steamers, 1 hook-and-ladder truck, 8 hose carriages, and a supply wagon. The principal manufacturing establishments are 2 gun factories, 1 calendar-clock factory, 2 window-glass factories, 2 paper mills, and 2 flour mills. The churches are 1 Presbyterian, 1 Congregational, 3 Methodist, 2 Baptist, 1 Unitarian, 1 Episcopal, and 1 Catholic. There is also a flourishing Young Men's Christian Association. Among the charitable institutions are an Old Ladies' Home, a Children's Home, and a Kindergarten. A hospital is soon to be established. About three years since a well was drilled to the depth of 3,100 feet, which at a depth of 2,200 feet passed through several beds of solid salt aggregating more than 100 feet in thickness. Salt works will undoubtedly be established here at an early day. North of the city is an extensive gravel bank, evidently a moraine of the glacial period.

Jackson, the central city of Michigan, so called on account of its location midway between Lakes Erie and Michigan, and also on account of its converging network of railways. It is the county seat of Jackson County, one of the most populous and productive in the State. While

much of the prosperity of Jackson is due to its agricultural surroundings, its rapid growth in recent years is properly attributed to its manufactures and railroads. Of the latter there are 8 distinct lines passing through or terminating in the city, belonging to 4 systems, of which the Michigan Central, the Lake Shore and Michigan Southern, and the Grand Trunk are doing a heavy business, and the Cincinnati, Jackson and Mackinaw is building in from Addison, 20 miles distant. Each company maintains a separate depot, and the entire network of railways is connected by means of side tracks, constituting a practical belt line for transfer. The city is so accessible from every direction that it is the distributing point for a large portion of the State, nearly all the great agricultural-machinery manufactories having warehouses or transfer agencies in the city. Jackson is above the central coal basin of Michigan, and numerous mines are operated in the vicinity, furnishing a good quality of soft coal. Beneath the coal formation are inexhaustible supplies of salt, which latter is not at present utilized on account of the cost of manufacture and the low price of the product. The largest industry manufactures all varieties of mill machinery. The factory covers 20 acres, and does a business of several million dollars a year. The Michigan Central owns and operates large railroad shops in the city, and manufactures locomotives, cars, etc., in large numbers. The Michigan State Prison, one of the finest in America, is in Jackson: its 750 convicts are employed on contracts, operated on a large scale, making wagons, agricultural tools of all kinds, boots and shoes, brooms, and other articles. Other industries of Jackson are large flouring mills, carriage and cart factories, harness factories, mill machinery, engines, dust collectors, soap, spices, chemicals, glue, brick, tile, sewer pipe, beer, lumber, furniture, and house furnishings. Jackson excels all other cities in the manufacture of road carts. It has the central office of the National Water-Gas Company, which operates an extensive, elaborate, model plant, and furnishes gas at thirty cents a thousand feet. The city has two electric-light companies, and the streets are lighted all night with 250 arc lights. The drainage and sewerage are excellent, into Grand river, which flows through the city. There are 15 public schools, 4 parochial schools, 5 banks with large capital, 24 churches, 10 building and saving societies, and a free public library; a United States Government post-office is being built. There are three daily papers and numerous weekly publications. The population in 1880 was 16,105; in 1884, by State census, 19,136; in 1890, by Federal census, 20,779.

Jacksonville, a city and the county seat of Morgan County, Ill., 90 miles northeast of St. Louis, Mo., and the same distance west of Quincy. It is one of the oldest educational centers in the West. The Yale Band of Connecticut founded here, in 1829, Illinois College, the oldest chartered institution of learning in the State. Shortly afterward Jacksonville Female Academy was established in a humble way, the first of its kind in the State, now a flourishing institution. There are in addition the Illinois Conservatory of Music, the Illinois Female College and

College of Music and Art under the especial patronage of the Methodist Church, Jacksonville Business College, and an excellent system of public schools. Here also are the Illinois Institution for Deaf Mutes (the largest of its kind in the world), the Central Illinois Hospital for the Insane, and the Illinois Institution for the Blind. Three railroads pass through the town, the Wabash, the Chicago and Alton, and the Jacksonville Southeastern system, the last having its machine shops and headquarters in the city. Several miles of the streets are paved, and along many of them are rows of beautiful trees well grown. The streets are lighted with gas and electricity, and the city has a system of water works supplied by an impounding reservoir, in addition to which are two artesian wells supplying nearly 600,000 gallons daily. A mine of good coal is operated just beyond the city limits. The Jacksonville woolen mills employ a large number of operatives and the Bohne and Garden City knitting works furnish employment to many, making a special quality of silk underwear, and woolen knit garments, while the Jacksonville Manufacturing Company makes a large variety of wooden goods. There is an excellent system of street railways, two large artificial-ice factories, and several brick and tile establishments. Two daily papers and a monthly magazine are published. There are 16 churches. The population in 1890 was 12,357.

Jamestown, a city of Chautauqua County, N. Y., on the outlet of Chautauqua Lake, 69 miles by rail south of Buffalo, at an elevation of 1,350 feet above sea-level. It is on the New York, Lake Erie and Western Railway, 446 miles from New York, 180 from Cleveland, and 539 from Chicago. It is a terminus of the Chautauqua Lake Railway, also of the Buffalo and Southwestern branch of the Erie, and is on the line of the Dunkirk, Alleghany Valley and Pittsburg. It is also connected with the various points on Chautauqua Lake by steamboats. Its population in 1890 was 15,991. It contains 4 banks, 22 churches and chapels, a Young Men's Christian Association, a hospital, an orphan asylum, 8 newspapers, and a fine system of public schools with 10 well-equipped buildings. An abundant supply of pure water is furnished from artesian wells by means of the Holly system. Natural gas for both heat and light is brought from wells 26 miles distant. Electricity is also used for both light and power. A street railway, $\frac{1}{4}$ miles long, is to be extended, in the coming year, more than twice that distance, and electricity applied for propelling the cars. The Prendergast Library Association has erected a fine library building at a cost of more than \$65,000. The circulating library will soon open with 6,500 volumes, and \$5,000 will be expended on a reference library. The association has property yielding an annual income of about \$4,500 for the benefit of the library. The contract has been let for building a State armory. There are more than 70 manufactories, about one third of which make furniture or articles of wood. Of the 3 worsted mills, 2 give employment to about 500 persons each. Woolen and plush goods, boots and shoes, boilers and engines, and metallic cases for vaults and safes, are among the articles manufactured. Chau-

taqua Lake is a popular summer resort and is widely known as the seat of the Chautauqua University. During summer 6 large and numerous small steamboats ply between Jamestown and points on the lake.

Jefferson City, the capital of Missouri and county seat of Cole County, on the south bank of Missouri river, 143 miles above its confluence with the Mississippi, opposite the mouth of Cedar Creek and 125 miles west of St. Louis, with which it is connected by the Missouri Pacific Railroad. It is the southern terminus of a branch of the Chicago and Alton Railroad, and a branch of the Missouri Pacific Railroad runs thence southwest 50 miles to Osage river. The population in 1860 was 3,082; in 1870 it was 4,420; in 1880 it was 5,271, of whom 1,017 were colored; in 1890 it was 6,732. The city is very near the geographical center of the State, and is built on elevated and uneven ground, commanding a fine view of the beautiful scenery on the northern bank of the river. Its principal public edifices are the State House, a handsome building of stone to which two wings have recently been added at a cost of \$250,000, the Governor's residence, the State armory, the Supreme-Court building, the Penitentiary, the United States court house and post-office building, the public-school building, the county court house, and Lincoln Institute, an institution supported by the State for the education of colored teachers and the higher education of colored youth, which has 154 students. There are 12 churches, a Jewish synagogue, and 5 hotels. The city is lighted by gas and electricity and has an excellent system of water works, a national bank and 3 State banks, 1 daily and 3 weekly newspapers, a monthly journal of education, flouring mills, breweries, manufactories of wagons, shoes, paper boxes, brick, and mineral waters, a planing mill, a book bindery, a foundry and machine-repair shop, and 4 building-and-loan associations with an aggregate capital stock of \$900,000. There are within the Penitentiary, under the contract system, extensive manufactories of saddle-trees, boots and shoes, clothing, harness, etc. The State library has 20,000 volumes. The public schools have 950 pupils.

Joliet, a city, the county seat of Will County, Ill., on both sides of Des Plaines river, 35 miles southwest of Chicago. The population in 1850 was 2,659; in 1860 it was 7,102; in 1870 it was 7,263; in 1880 it was 16,659; in 1890 it was 27,487. The Illinois and Michigan Canal passes through the city, and it is the point of junction of the Chicago, Rock Island and Pacific, the Chicago and Alton, the Michigan Central, the Chicago, Santa Fé and California, the Joliet, Aurora and Northern, and the Elgin, Joliet and Eastern Railroads. It is surrounded by a rich agricultural country, and is the principal shipping point for the produce of this region. The canal and river furnish water power, and there are several flouring mills, wire-fence factories, a large oatmeal mill, and a paper mill. The Illinois Steel Company's plant is by far the largest and most important in the city. It comprises also the North Chicago and South Chicago Rolling Mills. The company's works at Joliet cover 100 acres of level ground. The capacity of these works is over 3,000 tons of

steel rails a week. The machinery is of the latest pattern, and extensive improvements are being made. Another large industry is that of manufacturing check-rows. There are inexhaustible quarries of fine blue and white limestone near the city. Joliet is well built, and is lighted with electricity and gas. The court house is the finest and most expensive of its kind in the State. The State Penitentiary, one of the best in the country, cost more than \$1,000,000. There are 2 national banks, and 3 daily and 5 weekly newspapers are published. The 10 public schools all have fine stone edifices. There is also a public high school and 16 churches. The street railway runs by electricity.

Kalamazoo, the county seat of Kalamazoo County, Mich., on Kalamazoo river, forty miles from Lake Michigan, almost exactly half-way between Chicago and Detroit on the Michigan Central Railroad. The population in 1890 was 17,856. It has the reputation of being one of the prettiest inland cities in the country. The Michigan Central, the Grand Rapids and Indiana, and the Kalamazoo division of the Lake Shore and Michigan Southern Railroads cross here, and here also is the terminus of the South Haven branch of the Michigan Central, as well as of the Chicago, Kalamazoo and Saginaw Railroads. The Michigan Asylum for the Insane is here, and a Government building will soon be erected. Among the chief industries of the city are manufactures of wind-mills, carriages, wagons, sleighs, carts, wheels, plows, pills, capsules, harrows, fanning mills, thrashing machines, pulleys, railroad velocipedes, wash-boards, regalias, carriage springs, paper, flour, photographic shutters, saw-mill machinery, engines, gloves, whiplashes, flour-mill machinery, and burial caskets. The value of manufactured product for 1889 was \$6,000,000. Kalamazoo has for many years been noted for its celery, many thousands of acres in the vicinity being especially adapted to its cultivation, and 3,000 acres having been planted for that crop in 1889. A conservative estimate of the value of a full crop is not less than \$750,000. The city has a fine public library, a law library, and a small library owned by the Ladies' Library Association, the latter in a fine building owned by the association. Kalamazoo is lighted by electricity, owns its system of water works with nearly 30 miles of mains, which furnishes water of remarkable purity from 2 wells, and has a system of street railways, 5 banks, and a Safety Deposit and Trust Company, 20 churches, a large number of benevolent and social organizations, and a public hospital. There are 2 daily and 2 weekly papers, besides several other publications. Kalamazoo College and the Michigan Female Seminary are here, and there are 10 public-school buildings and a number of private schools. The city has no debt whatever, and while a large amount is annually expended for improvements, the rate of taxation is about 1 per cent. on actual valuation. The contract has been let for a Government building to cost \$75,000, and in 1891 are to be erected a library building at a cost of \$50,000, and a Y. M. C. A. building to cost \$35,000.

Keene, a city and the county seat of Cheshire County, N. H., on Ashuelot river. It had in 1880 a population of 6,784, of whom only 2 were col-

ored. In 1890 the entire population (7,491) was white, except 1 family of Indians and 3 Chinese laundrymen. The principal industries are manufactures of furniture, sash-doors, and blinds, pails and buckets, chairs and carriages, mowing machines, packing cans, polishing powder, skates, woollens, pottery, leather, boxes, toys, shoes, machinery, water wheels, harness, brush handles, bricks, glue, soap, butter, and cheese. Several fine residences and the less imposing houses indicate that there are both wealth and comfort among the people. Three weekly papers and 1 daily are published. There are 7 banks, the deposits in the 3 savings banks amounting to nearly \$7,000,000. The high school is one of the best in the State. There are 7 churches. A board of trade, organized recently, is doing a quiet but effective work. The Manchester and Keene Railroad, operated by the Boston and Maine, terminates here; so also does the Ashuelot, while the repair shops of the Cheshire Railroad are at this point. Keene is one of the most beautiful of New England cities.

Keokuk, one of the county seats of Lee County, Iowa, in the southeast corner of the State, 205 miles above St. Louis and 135 miles east of Des Moines, at the foot of the Des Moines or Lower Rapids of the Mississippi, and 2 miles above the mouth of the Des Moines, in the midst of a fertile and well-developed country. It is connected with Illinois and Missouri by iron railroad and highway bridges across Mississippi and Des Moines rivers. The population in 1860 was 8,136; in 1870 it was 12,766; in 1875 it was 11,841; in 1880 it was 12,117; in 1885 it was 13,151; in 1890 it was 14,075; the decrease in 1875 and 1880 was due to a contraction of the city limits. The town is built mainly on a bluff 150 feet high, which contains excellent limestone. It has broad, regular, macadamized streets, well shaded, and running at right angles to one another, is compactly built, and has many handsome business buildings and residences. It is lighted with gas and electricity, has street railways and water works of the Holly system with a capacity of 4,000,000 gallons a day. There are 3 artesian wells, 700 and 1,200 feet deep, flowing 600,000 gallons of mineral water daily; has several fine large parks and handsome drives. In addition to the extensive river trade, 6 railroads center here, viz., Chicago, Burlington and Quincy, Des Moines branch of the Chicago, Rock Island and Pacific, St. Louis, Keokuk and Northwestern, Wabash, St. Louis and Pacific, Keokuk and Western, and Toledo, Peoria and Western. The canal around the Des Moines Rapids, built by the United States Government at a cost of \$4,000,000, begins here. It is 7½ miles long, 300 feet wide, with 7 feet depth at lowest stage of river; has two levels, and is provided with locks. The fall of 20 feet furnishes abundant water power, as yet undeveloped. In connection with the canal a dry dock 400 feet long and 100 feet wide, and costing \$140,000 has been completed by the United States. This dock is available for vessels drawing not over 7 feet of water. It is entered and filled from the canal, and exhausted by means of sluices into the river. The canal furnishes safe winter harbor for boats, and large quantities of ice are annually taken from it. The 23 churches have a seating capacity of 8,500.

There are 5 banks with an aggregate capital of \$500,000, and 2 loan and building associations; 2 daily, 4 weekly (1 German) newspapers, and 2 monthly publications. Keokuk has a large wholesale and shipping trade in groceries, lumber, dry-goods, drugs, hardware, butter and eggs, boots and shoes, and manufactured articles. The coal fields of Iowa and Illinois being in close proximity, its manufactories are developing rapidly. Among these are 2 large canning factories, pickle works, 2 stove works, 2 flouring mills, pump and furniture factories, 2 starch works, 3 iron foundries and machine shops, plow works, a brick-making machine and wind-engine factories, large shoe factory, 2 railway shops, sash and blind factories, cooper shops, a large pork-packing house (slaughtering 140,000 hogs annually), 3 large saw mills, and extensive lumber yards that manufactured and received in 1888 96,500,000 feet of lumber, 13,000,000 lath, and 25,000,000 shingles. A large powder plant is being erected near the city. There is a national cemetery, a large army hospital having been located here during the civil war. The city was incorporated in 1847. It is in a sound financial condition, the debt of \$300,000 being funded at a low rate of interest.

Kingston, a city of Ontario, Canada. Its settlement is almost contemporaneous with that of Quebec. In 1673 Comte de Frontenac, Governor of New France, made a voyage hither with 120 boats in great state, and established a fortified trading post after his own name, with the favor of the Iroquois tribe. Here La Salle built a vessel, and sailed up the lake, establishing a fort at Niagara, where again he built for the navigation of Lake Erie, a part of his aim for a passage to China and by the Mississippi to Mexico. About Fort Frontenac, called by the Indians Cataragui, colonists settled. The treachery of its next commandant, De Denouville, toward the Indians had its fruit in siege, capture, and massacres. Frontenac, recalled from France, rebuilt the fort, and it had a tranquil existence till the British capture under Col. Bradstreet in 1758. It again became important when the loyalists flocked over from the United States as a result of the War of Independence, and settled in and about it in great numbers, giving it the name of King's Town. In 1842 it was made the capital of Upper Canada, and great building enterprise was undertaken, but within a few years the seat of government was withdrawn, dissipating the fortunes of the people, and giving a death-blow to enterprise while that generation lasted. It settled down to the life and dependence of a garrison town, fostered by extensive fort building under imperial policy. The British troops being withdrawn, and lake commerce being on the decline, Kingston roused itself in the sixties and has steadily advanced from a population of 12,600 to one of 21,000, including the Canadian regulars in garrison and suburbs of Portsmouth. Here are Queen's College, with 500 students in arts, science, theology, and medicine; the Royal Military College, beautifully located and finely equipped; the Royal College of Physicians; a Woman's Medical College, the pioneer of its class in Canada; the Dominion Business College; and a collegiate institute in unbroken operation since 1794. Various fortifications give the town a military strength second only to that of Quebec,

and its five armed Martello towers possess an especial interest for visitors. Here, in the days gone by, Navy Bay was filled with vessels of war from England; but the dock yard, after many years of idleness, is doing duty as a site for the military college. Its commercial importance before the era of railroads was pre-eminent in Ontario—due to its position at the juncture of Lake Ontario and the river St. Lawrence, with a land-locked harbor easy of access, and to its being also at the foot of Bay of Quinte and Rideau Canal navigation. Extensive grain transshipment takes place from lake vessels to river barges, rafting of timber is a vigorous business, and a fair lumber, coal, and iron trade is done in vessels. A dry dock, claimed to be the best on the continent, is nearing completion. Besides the Grand Trunk Railway there is the Kingston and Pembroke, running 120 miles north through the iron-mining district, and connecting with the Canadian Pacific system; the Kingston, Napanee and Western, running 90 miles northwest; and the projected Kingston, Smith's and Ottawa Railway, 120 miles to the northeast. Its industries include locomotive and engine works employing 500 men, a cotton mill, a hosiery mill, car works, machinery foundry, stove works, and cement, oil-cloth, biscuit, and broom factories. Its public institutions include the provincial penitentiary, with 600 inmates; 2 provincial asylums, with 800 patients; 2 hospitals; 2 orphanages; and 2 homes for the aged. The public buildings and churches are all of stone, the city hall, court house, and Roman Catholic cathedral being models of fine architecture. It is the seat of a Roman Catholic archbishop and of an Anglican bishop. The assessment of property aggregates \$8,000,000.

Las Vegas, the county seat of San Miguel County, New Mexico, on Gallinas river. It was founded in 1835 by a colony of Mexicans, on the direct road between Santa Fé and Missonri river, and was a stopping place for the great wagon trains from the United States to the northern Mexican provinces. It was taken possession of by Gen. Stephen W. Kearney for the United States, Aug. 15, 1846. On July 4, 1879, the Atchison, Topeka and Santa Fé Railroad entered the town, which at that date was constructed principally of adobe. The population in 1890 was 4,692. In 1888 the total of freight forwarded from Las Vegas was 84,599,670 pounds, and of that received, 107,633,570. San Miguel County contains 8,468,881 acres, of which 38,241 are under irrigation, and the total assessed valuation in 1888 was \$8,064,610. It contains quarries of building stone of various colors and fine quality, and lumber is abundant, the mountains northwest of the city being covered with heavy forests of pine, easily accessible. Large amounts of lumber and building material are cut and shipped. Good clay is also found, and is utilized in making brick. Las Vegas is supplied with water from the springs of Gallinas river, conveyed seven miles, with a fall of 300 feet, affording pressure for security against fire and power for manufacturing. The city has a large flouring mill. Street cars, gas, and electric lights are in use, and there is telephone communication to Los Alamos and Mora. There are 1 daily and 2 weekly newspapers (one of the last being pub-

lished by the Jesuit fathers in Spanish, in the interest of the Church), 2 national banks, and 1 loan and investment company. Almost all denominations are represented by churches, and several have expensive edifices. In addition to the public schools, there are an academy for both sexes, a female seminary of the Methodist Episcopal Church South, a convent for girls, and a Presbyterian mission school. The court house, opera house, and cathedral are of native brown sandstone. The Las Vegas Hot Springs, six miles northwest of the city, are reached by a branch railroad. There is a fine hotel, with bath house and beautiful grounds and drives.

Leadville, the county seat of Lake County, Col., 114 miles southwest of Denver. It is the center of the most productive mining district in the State, and is in a basin of the Moquito range of the Elk mountains, at an altitude of 10,300 feet. The Arkansas river has its source about 12 miles northeast, and flows at the foot of the bench on which the city is built, 3 miles to the west. Gold was discovered in 1860, in California gulch, which forms the southern boundary of the city, and from which it is estimated \$3,000,000 in placer gold was taken before the diggings were abandoned in 1867. Carbonates of silver and lead were found in 1877, and in the eight months prior to March, 1879, \$5,000,000 in both ores were taken out. In 1880 mines were worked by twelve companies, with aggregate capital of \$72,000,000, employing from 10,000 to 15,000 men. The principal locations were on Carbonate, Freyer, Iron, Evans, Long, and Derry hills, 8 miles of Freyer hill alone having 75,000 linear feet of drifts, levels, winzes, and raises, representing about 2,000,000 cubic feet. The total product in 1880 was 67,721,856 pounds of bullion, of which 8,979,399 ounces were silver and 1,688 ounces gold; 12,410 tons of ore were shipped, and the total value was \$15,025,153. The total product of the district from 1860 to 1879 is estimated at \$10,700,000, and that of the ten years subsequent is \$147,834,186, of which \$6,230,111 ounces were silver, 228,091 ounces gold, and 442,726 tons lead. The direct profit to the Government from the coinage of Leadville's silver in the period named aggregates \$12,410,673. Of the total production of the State by mines in 1889 (\$35,726,938.15) \$12,490,323.18 were from Lake County. The total area of the explored and proved mineral belt of Leadville district is 9 square miles, and there are 96 producing mines, with a daily output of 1,250 tons. The average depth is about 400 feet, the range being from 800 to 100; 3,600 horsepower are in use, and 3,500 men are employed. The estimate of ore in sight is \$20,000,000. Leadville has 4 smelting and reduction works, of which the output in 1888 was \$6,474,225. The amount paid for labor in mines and smelters alone in ten years aggregates \$46,800,000. The railroads are the Colorado Midland, the Denver and Rio Grande, and the Union Pacific. The railroad traffic for 1887 required 32,126 cars. The population in 1880 was 14,820; in 1890 it was 11,159, a decrease of 3,661 (24.70 per cent.). The taxable wealth in 1888 was \$9,750,000, and the city had 57 manufacturing establishments, with an aggregate capital of \$2,683,000, employing 2,801 persons, and an annual product valued

at \$11,875,000. After 1880 the excitement incident to the discovery of mines subsided, though the value of the last remained, and the growth has been substantial. The city has gas and water works, electric lights, telegraph and telephone facilities, and has expended \$500,000 in school buildings and in maintaining schools. The High School is a fine building. There are 9 churches, costing \$175,000, and 2 hospitals, costing over \$100,000. Two banks, both national, had a capital, surplus, and undivided profits, March 1, 1890, of \$417,575, with deposits to the amount of \$1,323,079. There are substantial brick business blocks and handsome modern dwelling houses. Leadville is the seat of a United States land office, the receipts from which in ten years were \$557,138.45, for property valued at \$27,500,000. There are 3 daily and weekly newspapers.

Little Rock, the capital of the State of Arkansas, and county seat of Pulaski County, on Arkansas river, 300 miles from its mouth. It has railroad facilities by the St. Louis, Iron Mountain and Southern, the Little Rock and Memphis, the Little Rock and Fort Smith, the Little Rock, Mississippi River and Texas, and the Little Rock and Memphis roads. Little Rock was settled in 1819, and its first newspaper was published in 1822. In 1824 the Quapaw Indians ceded their lands in the vicinity. Growth was gradual until 1880, from which time it has been rapid. The population in 1870 was 12,380; in 1880 it was 13,138; in 1890 it was 25,133, an increase of 11,995 (or 77.63 per cent.). The total of merchandise sales of Little Rock for the year 1886 was \$13,790,860, and for 1887 \$16,532,276. The cotton receipts for the year 1888-'89 were 78,000 bales. The city has 2 large cotton compresses and immense warehouses, and is a large market for the staple. The river business for 1887 was \$1,938,000, and for 1888, \$2,188,850. The approximate tonnage received by boat, of cotton, cotton seed, and miscellaneous freight, from the South, was 5,000 tons, valued at \$100,000, and from the North 10,000 tons, valued at \$400,000. The logs rafted by the river to the city for lumber, shingles, staves, etc., were 5,000,000 feet, and hewed timber for transshipment to European markets, 100,000 cubic feet. The shingles received by river were from 7,000,000 to 8,000,000. The total tonnage handled by the city for 1886-'87 was 130,635 tons, valued at \$20,338,000. The assessments in 1887 were \$5,000,682 real, and \$2,079,053 personal, the debt being \$225,000. In 1889 there were 3 national banks, with aggregate capital of \$550,000 and surplus and undivided profits of \$236,226, and also 2 private banks. The amount of capital invested in industries in Little Rock, June, 1889, was \$1,550,000. These included car shops of the Missouri Pacific and the Memphis and Little Rock Railroad Companies, 3 cotton-seed-oil mills (with aggregate capital of \$600,000), 3 furniture, 1 chair, and 3 cooperage factories, 3 foundries and machine shops, 2 factories manufacturing cotton machinery, 2 planing mills, and numerous smaller establishments. Ninety per cent. of the stock and capital is owned by residents. Water is supplied from 2 large reservoirs, with a capacity of 20,000,000 gallons, at an elevation of 230 feet above the

business portion of the city. The river is spanned by 2 iron railroad bridges. The total value of public buildings in Little Rock is \$2,418,925. Among these are the Capitol (which cost \$125,000), the Government building (\$285,000), the United States Arsenal (\$250,000), the county court house, the State School for the Blind (80 inmates), the State Insane Asylum (369 inmates), the Deaf-Mute Institute (125 inmates), the Penitentiary (cost \$500,000), a city hall, a Children's Home Association, and an old ladies' home, the two last costing \$10,000 each. The churches number 27; and the public-school buildings, 14 in number, are valued at \$143,000. The Little Rock University and a female college each have 100 students, while there are also a Masonic, a medical, a business, and a colored college, a convent of the Sisters of Mercy, and a Lutheran parochial school. The Board of Trade building cost \$25,000, and there is a theatre. The city has street railways, gas, electric light, telephone and telegraphic facilities, and 4 daily papers are published, in addition to 14 weekly, 1 bi-weekly, and several monthly periodicals. One weekly is in German, and one is for deaf mutes.

Logansport, a city and the county seat of Cass County, Indiana, at the junction of Wabash and Eel rivers, which furnish a water power of about 2,000 horse-power. Four railroads, with their branches radiating in ten different directions to such terminal points as Chicago, Cincinnati, Detroit, Toledo, Indianapolis, St. Louis, Evansville and Louisville, encircle the city and give it unsurpassed railroad facilities, giving employment also in their shops and on their trains to about 1,500 residents. In 1889 about \$250,000 was expended on buildings within the city limits. Water works with 16 miles of mains, electric-light works for public and private lighting, gas works, and a superb natural-gas plant supplying factories and 3,000 private consumers, with a street railway, an unexcelled fire department, numerous fine bridges, a handsome new court house, 9 school buildings (erected at a cost of \$300,000), and numerous church edifices (costing in the aggregate about the same amount) are the principal public improvements. Manufacturing is carried on extensively, its chief products being plow handles, hubs and spokes, cooperage, linseed oil, flour, baby cabs, overalls, furniture, wind pumps, galvanized iron works, and paper. One of the State hospitals for the insane is one mile west of the city, and its site is considered remarkably beautiful. There are 2 national banks and 1 safe-deposit company, 3 hotels, a fine opera house, a handsome passenger station, and a great many superior business blocks in the city, 90 miles of improved streets and 50 miles of walks. The population in 1860 was, in round numbers, 3,000; in 1870 it was 8,000; in 1880 it was 11,000; in 1890 it was 14,000.

London, the chief city in Western Ontario, Canada; population, with suburbs, in 1890, 35,000. It is on the forks of the River Thames, about midway between Niagara Falls and Detroit. It is regularly laid out, with wide, shaded streets. The principal public edifices are its 2 cathedrals, churches, university, medical and ladies' colleges, custom house, 2 orphan asylums, Government asylum for the insane, convent, and military school. In the last named a detachment of

Canada's small regular army is maintained. The principal manufactures are house and school furniture, agricultural implements, engines, stoves and hardware, bolts, railway cars, tobacco, cigars, biscuits, ales, corsets, boots and shoes, scales, petroleum refining, chemicals, and pottery ware. The city is in the center of a fine agricultural district, and has extensive wholesale interests. It is a railway center, more trains arriving at and departing from it in a day than arrive at or depart from any other city in the Dominion. London is governed by a mayor and 18 aldermen, a water commission, a public-school board, and a hospital trust. Twelve newspapers are printed here, 2 of which are published daily. On his visit to the district, Feb. 13, 1793, Gov. Simcoe selected the site for the city, and named it Georgina-on-the-Thames. He intended it to be the capital of Canada, but the British Government failed to remove the seat of government. Not till 1826 was a house built here. Since then the place has made steady progress.

Mankato, the largest city of southern-central Minnesota, the county seat of Blue Earth County, at the great bend of Minnesota river and immediately below the confluence of the Blue Earth, its largest tributary. It is nearly equidistant from the eastern and western boundaries of the State, and 86 miles southwest of St. Paul. It was first settled in 1853, and was incorporated as a village in 1864, and as a city in 1868. In 1880 the population was 5,550, in 1885 it was 7,871, in 1890 it was 8,805. The city is on the Chicago, St. Paul, Minneapolis and Omaha Railway, the Chicago, Milwaukee and St. Paul, the Chicago and Northwestern, and the Minneapolis and St. Louis. The site of the town, as well as the adjacent country, was originally covered with a heavy growth of forest trees, mostly hard wood, and the profusion of native trees still remaining and the many bluffs, valleys, and ravines adjacent afford some of the most picturesque scenery to be found in the West. The country tributary, largely the southern part of the extensive forest region known as "the Big Woods," is one of singular beauty and productiveness. Partly to this, but more to its central location and its rapidly increasing manufacturing interests, is due the recent growth of the city. These interests include one of the largest plants in the Union for the manufacture of hydraulic cement, drain tile, sewer pipe and fire-brick works, linseed oil works, the largest butter-tub factory in the world, fiber-ware works, two flouring mills (one having a capacity of 1,200 barrels a day), a woolen mill, several carriage and wagon factories, plow factories, a canning factory, butter and egg packing houses, 4 grain elevators, a large brewery, and numerous others. From the limestone quarries in the suburbs are shipped vast quantities of superior building and bridge stone. Lime is extensively manufactured at the same quarries. Brick making is also a prominent interest. There are 3 national banks, 1 daily and 7 weekly newspapers, and an opera house with a seating capacity of 1,500. An elegant new four-story hotel, a court house of great beauty (constructed of stone from the local quarries), a hospital, a four-story office block, a sewerage system, and a system of water works are among the improvements completed in 1889.

The abundant and wholesome water supply is from two strongly flowing artesian wells, about 600 feet deep, and flowing 1,500,000 gallons a day. The natural force of the flow would raise the water 50 or 60 feet if confined in a pipe, but for effective service it is pumped into a 1,000,000-gallon reservoir on one of the bluffs above the city, and forced by gravity through 10 miles of water mains. There are a street railway, electric and gas light systems, and a telephone exchange, 17 churches, one of the 4 State normal schools, a high school and 4 other public schools, a Catholic college, and German Lutheran schools. The city has a board of trade, a Citizens' Progressive Union, a jobbers' union, and several literary organizations.

Mansfield, a city and the county seat of Richmond County, Ohio, 180 miles from Cincinnati, amid rolling hills, 1,300 feet above sea-level. It is the only city between the Atlantic seaboard and Chicago where the Erie, Pennsylvania, and Baltimore and Ohio Railroads come together, and passengers and freight are thus enabled to go to all the great commercial centers without change of cars. There are from 40 to 50 passenger, and nearly 200 freight trains daily. Mansfield has 18 churches and 10 school buildings, with a fine high-school building in process of construction; 3 daily and 4 weekly newspapers, 4 banks, and 7 hotels. The electric motor is in use for street cars, and streets and houses are lighted with electricity and gas. Water is supplied from flowing artesian wells, and distributed by water works of the Holly system. The average annual death rate in five years has been 8 in 1,000. The city was established in 1809. The important public buildings are the Soldiers' and Sailors' Memorial Library building, which provides a free library and Grand Army Hall (an opera hall seating 1,500, and a smaller hall for the Mansfield Lyceum lectures and debates), while the third story is set aside as a museum; a Children's Home, supported by the county; and the Intermediate Penitentiary, under construction by the State, intended as a reformatory for men under thirty years of age convicted of felony for the first time. The estimated cost is upward of \$1,000,000. There are two public parks, the Central, of 4 acres in the heart of the city, and the Sherman-Heineman, spanning the whole western boundary for about 2 miles, containing lakes for boating, a free bathing pool, and 25 acres of primeval forest. The manufactures, which are numerous and constantly increasing, include a factory of thrashers, horse-powers, engines, saw mills, and clover hullers covering 30 acres, engine and boiler works with a yearly output of \$500,000, a stove company manufacturing 18,000 stoves a year, a foundry, flouring mills, 2 brass works, a factory of pumps and plumbers' and gas-fitters' supplies (shipping to Europe and South America), 2 buggy companies, a factory of carriage-bow sockets, a cracker factory, 3 suspender companies, 1 elastic-web company, manufacturing of building and street-paving brick, a paper company, a steel-harrow factory, soap and candle works, and 2 large lumber and door factories. The cigar manufactories employ from 300 to 400 persons, and have an aggregate daily output of 120,000. There are 3 daily and 4 weekly newspapers. The population in 1880

was 9,859; in 1890 it was 13,542, an increase of 3,683 (37.36 per cent.).

Marion, a city and the county seat of Grant County, Ind., 41 miles from Logansport, at the intersection of the Chicago, St. Louis and Pittsburgh, the Cincinnati, Wabash and Michigan, and the Toledo, St. Louis and Kansas City Railroads. The site was laid out in 1831 and the town incorporated in 1838. In February, 1857, natural gas was discovered, and from that date to August, 1890, 21 wells were drilled within the corporate limits, with an average capacity of 5,000,000 feet a day; 27 factories have been located, all of which have increased and many have doubled their plants, and give employment to 1,500 persons. Among these are 5 glass factories, a pulp mill, a stove foundry, a malleable-iron works, a rolling mill, and pressed-brick works with yearly capacity of 20,000,000 brick. Twelve hundred new residences have been built, with 10 miles of street and sidewalks, and 4 miles of street railway. A new normal school has an enrollment of 200. Six new churches have been erected at a cost of \$75,000. The population in 1880 was 3,182; in 1890 it was 8,734, an increase of 174.48 per cent. There are 2 daily and weekly newspapers. In addition to the court house, Marion has a soldiers' home, with present capacity of 600 veterans, and prospective capacity of 2,500 within two years. The residence of Dr. William Lomax forms part of a bequest to the Indiana Medical College.

Marquette, a city, and the county seat of Marquette County, Mich., on the northern peninsula. It is one of the principal shipping points on Lake Superior. The general offices and machine shops of the Duluth, South Shore and Atlantic Railroad are here, and most of the business of that railroad consists in carrying ore to Marquette for transshipment. The handling of the iron ores mined in the county constitutes the leading business. The amount sent forward in 1890 was 1,400,000 tons. Besides the ore business, the industries of Marquette include 2 stone quarries, 2 lumber mills, 3 wood-manufacturing mills, 2 machine shops, 1 brewery, 2 smelt furnaces, 1 powder mill, and 1 carriage factory. The branch State Prison and House of Correction for the State is in the southern part of the city. Marquette is noted for its beautiful site, fine buildings, wide and well-paved streets, and healthful climate. Large numbers come from the South every summer for recreation. The finest fishing in the State can be had in the streams adjacent to the city. One of the largest natural parks in the West, Presque Isle, has recently been given to the city by Congress. The city has an electric-lighting plant driven by water power furnished by Dead river, 3½ miles from the business center. The population of Marquette in 1890 was 9,129.

Moline, a city of Rock Island County, Ill., on the south bank of Mississippi river, which here flows westward, and opposite Rock Island, the site of the Government armory and arsenal. The city is 2½ miles long, 1½ mile in width, the western boundary being the city of Rock Island. It is 2 miles above the city of Davenport, Iowa, the three cities (Moline, Rock Island, and Davenport) being intimately connected by street and steam cars, ferry, and

bridges. It is 168 miles west of Chicago, and is traversed by the Chicago, Rock Island and Pacific, the Chicago, Burlington and Quincy, and the Chicago, Milwaukee and St. Paul Railroads. The population in 1870 was 4,166; in 1880 it was 7,805; in 1885 it was 10,408; in 1890 it was 11,387, over 60 per cent. being native born, 26 per cent. Swedish, and 7½ per cent. German. Stewartville, a suburb of Moline, has a population of about 1,000. This city has the only water power on the Mississippi below St. Anthony's Falls. This water power, equal to 4,000 horse power, has been utilized in its present form in connection with the Government works on the island, these immense workshops, as well as several of the largest factories in Moline, being run by water power. There are extensive coal mines near the city and excellent coal is abundant and cheap. In 1889 30 factories, employing 4,385 men, and having a capital of \$6,100,000, made a product of \$7,700,000, using 8,655,000 feet of lumber, 78,600 tons of raw materials, while \$2,131,920 were paid for labor. There are factories for making plows and agricultural implements, wagons, carriages, buggies, paper, milling machinery, lumber, malleable iron, pumps, scales, pipe organs, reed organs, and hardware. The city was incorporated in 1872, has a fine system of water works, a free public library, a Young Men's Christian Association building, and is lighted with gas and electricity; it has three electric street-car lines and fire and police departments. There are 4 banks and 10 churches, 6 public-school buildings, 38 schools, and 45 teachers, including the high school. A course in manual training has been in successful operation for several years. Specimens of the handicraft work of the pupils were sent to the Paris exhibition in 1889 and were awarded a gold medal. There are 2 daily and 2 weekly newspapers. The location of the city is healthful, the scenery beautiful, and a drive on the island, a view from the bluffs overlooking the river, the island, and the three cities, and a visit to its manufactories are among the attractions.

Newark, a city and the county seat of Licking County, Ohio, 33 miles from Columbus, on Licking river, at the intersection of the Baltimore and Ohio and Pan Handle trunk lines of railway. Railroads radiate from the city in six directions, and 175 trains arrive and depart daily. Newark is also on the line of the Ohio canal. It is a center of trade in coal, grain, and live stock. Coal for steam and heating is brought from the Shawnee valley, and natural gas is supplied from wells within or near the corporate limits. The manufactures include the shops of the Baltimore and Ohio Railroad, employing from 600 to 1,000 men, large glass works 2 stove foundries, 3 portable-engine works, iron-bridge works, 1 paper mill, 1 wire-cloth factory, 3 carriage factories, 1 iron works, 1 steam cracker and 1 soap factory, 4 flouring mills, 3 planing mills, and 3 electric plants. There are several miles of street railroad. Water is supplied from a reservoir 2½ miles distant, 280 feet above the business portion of the city, and under pressure of 120 pounds to the square inch. There is a well-organized fire department. The drainage is excellent. There are 4 banks, and 2 daily, 3 weekly, and 1 semi-weekly newspapers are pub-

lished. There are 7 public-school buildings and 1 high school. The average daily attendance of public schools is 1,707, and 46 teachers are employed. At Greenville, 6 miles distant, to which an electric railway is under construction, are a university and 2 female colleges. The city has an altitude of 800 feet. The population in 1880 was 9,600; in 1890 it was 14,369, an increase of 4,769 (49·68 per cent.).

New Glasgow, a manufacturing town of Pictou County, Nova Scotia, 105 miles by rail northeast of Halifax, and distant from Pictou 16 miles by rail and 6½ miles by water. It is near the junction of the Eastern Extension, the Pictou Branch, and the Oxford and New Glasgow Short Line Railways. It is at the head of navigation on the East river, over which an iron-clad steamboat makes several trips daily to Pictou. The population in 1881 was 2,995 for the town and 943 for the suburbs; in 1890 it is estimated at 8,000, including the suburbs, of which Trenton, where the steel works and the glass works are located, has sprung into existence since 1881 and is still outside the municipality. The assessed valuation of the incorporated town is \$800,000, while the church property is valued at \$78,000 and the school property at \$9,000. The town has a new system of water works costing \$71,000. It is lighted with electricity and has telephone communication with the principal towns of the province. There are 4 schools, 8 churches, 3 weekly newspapers, 4 banks, and 3 large hotels. Situated in the immediate vicinity of the coal fields, New Glasgow offers excellent inducements to manufacturers. The Steel Works, the heaviest concern of the kind in the provinces, were established in 1883, and in 1889 this and the Forge Company were united as the Nova Scotia Steel and Forge Company, with a capital stock of \$400,000. The works occupy 10 acres and employ more than 300 men. The output for 1888 was valued at \$400,000; that for 1889 at \$600,000. The Nova Scotia Glass Company began business in 1881 with a capital stock of \$50,000; it employs 110 men. The yearly output amounts to \$80,000. The Acadia Foundry, established in 1867, employs 60 men and produces engines, boilers, and gold-mining machinery. McGregor's tannery employs 25 men, and the annual output is about \$60,000. There are also manufactories of harrows, hardware, soap, sashes, blinds, and doors, etc. A local company with a capital of \$4,000,000 has been formed to develop the iron deposits, and a company composed of Americans, known as the Nova Scotia Midland Railway and Iron Company, with a capital of \$10,000,000, is building a road from New Glasgow to Sunny Brae, 18 miles, the seat of iron-mining operations. New Glasgow was first settled in 1784. Its religious complexion is chiefly Presbyterian, but the other denominations are well represented.

Newton, a city of Middlesex County, Mass., on the south side of Charles river, 7 miles from Boston. It was incorporated as a city in 1873. The population, numbering about 25,000, is composed largely of merchants and others who do business in Boston. Its manufacturing interests are comparatively small, consisting mostly in paper, mill machinery cordage, and worsted goods. The city is almost encircled by railroads—the Boston and

Albany main line on the north side, the Woonsocket branch on the south, and the Circuit line connecting these, on all of which are eleven stations. Nearly all these depots are new, tasteful structures of brick and stone. Street railroads connect Newton with Boston, Watertown, and Waltham, and in 1890 horses were superseded by the electric cars. Newton was for many years the home of Horace Mann, the great educator, and its schools are among the finest in the State. Military instruction is given to the boys at the high schools. It has one other military organization, the Claflin Guards. At Newton Center is the Baptist Theological Institution, one of the finest schools of the class in the United States. Many of the church structures are new, built of stone, after designs by famous architects. Newton has a fine free library, a gift to the city by a few generous-hearted men, and John S. Farlow has given it Farlow Park and a mortuary chapel, with a conservatory attached, for the beautiful cemetery. The Lassel Female Seminary and Allen School are well known. Newton is supplied with excellent water, and soon will have a comprehensive system of sewerage. Geologically, Newton rests on the older Cambrian or upper Huronian rocks, and presents everywhere fine illustrations of glacial moraines and evidences of the drift epoch. It has a flourishing Natural History Society, as well as many other societies and clubs. Newton is divided into villages, distinguished by prefix or suffix, scattered along the railroad. It was the home of Waban, chief of the Nonantum Indians, and on the spot where the foundation is laid for a monument to his memory, Eliot first preached to the Indians.

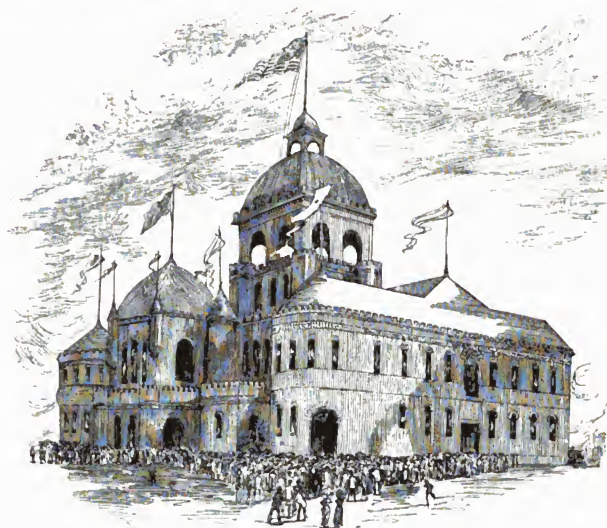
Olean, a village on Alleghany river, Cattaraugus County, N. Y. The population in 1880 was 6,575; in 1890 it was 11,584. It is the center of the Western New York and Pennsylvania Railroad system, reaching by the main line Buffalo, on the north, 70 miles; Emporium, on the south, 51 miles; Rochester, by the Genesee valley branch, 106 miles; Pittsburg, through the lower oil fields, by the river division and connections, 250 miles; and Warren, Pa., through the northern oil fields. The other railroads are the New York, Lake Erie and Western and the Lackawanna and Southwestern, the last a narrow gauge, passing through the Alleghany County, N. Y., oil fields. A street railroad connects with all railroads. There are two national banks. The manufactures include 4 machine shops, 3 foundries, 7 tanneries, 4 planing and 3 flouring mills, 2 refineries and barrel works of the Standard Oil Company, railroad shops, chemical, glass, and brick works, wagon, road-cart, stump-machine, harness, carriage, hub, heading, handle, tooth-pick, box, basket, and glue factories. The United pipe lines have in the vicinity more than 300 iron tanks, with a storage capacity of 10,000,000 barrels, and through 2 6-inch pipe lines oil is pumped to New York City. Fine blue-stone flagging and building stone are furnished from quarries in the town. There is a public library of over 3,000 volumes, the building being the gift of George V. Forman; 11 school, and 9 church edifices, a public building, and a State armory. The village has natural gas for fuel and lights, electric lights, and a gravity system which furnishes pure water.

Oneonta, a village of Otsego County, N. Y., 22 miles from the head of Susquehanna river at Otsego Lake, 82 miles southwest of Albany, and 60 miles northeast of Binghamton. It was for a long time known as McDonald's Bridge, but became Oneonta by law and by name in 1890. In 1867 a village census showed a population of 700; in 1881 it was 3,002; in 1890 it was 6,305. The assessed valuation is \$1,832,875. Oneonta's substantial growth began with the coming of the Albany and Susquehanna Railroad in 1866. A few years later the road was leased to the Delaware and Hudson Canal Company for ninety-nine years, and the workshops were built here; the shops, round-houses, other buildings, and tracks cover 150 acres, and the shops give employment to 900 men. Water is furnished by the Water Works Company, organized in 1881 with a capital of \$300,000. It is spring water stored in 2 large reservoirs 4 and 5 miles from the village, brought in iron conduits, and is adequate for a population of 30,000. The village is lighted by electricity, and has a street railway 2½ miles long. The main business streets are paved, and a system of sewerage is begun. The town has 11 churches, 2 national banks, 3 weekly and 2 daily papers. A union school has a superintendent and 22 teachers, with 3 buildings. Connected with the school is a public library of about 3,000 volumes. The Oneonta State Normal School was built at a cost of \$114,000, and was opened Sept. 1, 1889, with a faculty of 14 members. It is on an eminence overlooking the village, and in the second year had an attendance of 400 students. The principal manufacturing companies are: A table company, a knitting mill, a sash and blind factory, a printing-press company, a shirt manufactory, 5 cigar factories, and several minor industries, employing about 1,000 persons. The fire department is well equipped. The village has a Young Men's Christian Association of 600 members and various other orders and societies.

Ottumwa, a city, and the county seat of Wapello County, Iowa, on Des Moines river, 75 miles from Burlington, in the southeastern part of the State. The population in 1870 was 5,214; in 1880 it was 9,004; in 1890 it was 13,996, an increase of 4,992 (55.44 per cent.). Ottumwa in 1890 had 5 railroads, with a sixth in process of construction. A fine railroad bridge crosses the river, and all roads center upon the river front, back of which the city rises in terraces to the summit of the bluff. Ample water power is afforded by the river, and the city has been called "the Lowell of Iowa." In 1885 Wapello County contained 41 manufacturing establishments, with capital invested of \$847,500, and a product of \$2,963,380. Of this amount, \$2,000,000 resulted from the pork-packing industry. Other manufactures were of woolen goods, lumber, agricultural implements, brick and tiles, carriages and wagons, machinery, saddlery and harness, furniture, cigars, foundry, brewery, and creamery products, and miscellaneous minor factories. The yearly trade of the city is \$6,000,000. In 1887 20 coal mines were in operation in the county, all working in the lower coal measures, the deepest shafts not exceeding 100 feet, and the coal lying in many places near the surface, permitting shafts to be opened by slopes.

The output of the county in coal for 1887 was 272,072 tons. In 1889 10 counties of Iowa, inclusive of Wapello, mined 3,500,000 tons of coal, at an expense for labor of \$2,000,000, paid to more than 8,000 men. These counties in 1890 entered into a league for the erection of a coal palace, built by the citizens of Ottumwa in that city, the massive walls of which were composed of hewed blocks of coal laid in red mortar and veneered with a solid sheeting of plank. The

total value of school property being \$127,000; 40 teachers are employed, and there is a high school. There is also a normal school, established in 1872. In 1885 47 out of 51 religious organizations owned their buildings. Two daily and 5 weekly newspapers are published, one of the last being in the German language. The pavements are of brick, and there is an electric and steam street railway. The city has a fine depot and a new Government building.



THE COAL PALACE AT OTTUMWA.

palace covered nearly a block, and was two stories in height, the highest central tower being 200 feet in the clear. The cost of the structure was nearly \$30,000. A stage in one of the towers, 30 by 36 feet, contained a waterfall of 40 feet, lighted by 700 party-colored electric lights, and using 1,600,000 gallons of water daily. The auditorium of the main hall, with balconies ascending direct from the stage, afforded seating capacity of from 4,000 to 5,000. Exhibits were also made of machinery, mineral and agricultural products, etc. Unique features of the palace were the sunken garden (the building having been erected on 300 piles above the Sunken Park of the city) and a miniature coal mine, with shaft leading from the main tower, over 150 feet in depth. The palace was opened Sept. 16, and closed Oct. 11, 1890. The assessed valuation of the city in 1887 was \$2,959,892, the cash value being \$5,919,784. There are 5 public-school buildings with enrollment of 2,457, the

Ouray, the county seat of Ouray County, Col., called the "Gem of the Rockies," in the southwestern part of the State, in the bowl-shaped valley of Uncompahgre river, at an elevation of 7,200 feet. It was settled in 1875, and named in honor of a chief of the Ute Indians. The first newspaper was published in 1878. In the summer of 1887 a branch of the Denver and Rio Grande Railroad was built to the city. In 1876 the mineral output of Ouray was \$800; in 1887 it was \$1,497,892; in 1888 it was \$1,609,208.79; and in 1889 it was estimated at \$1,650,000, of which \$1,320,000 was silver. Ouray paid for the grading of the railroad into the city, and has expended in the construction of wagon roads a sum aggregating \$170,000. Two miles of one road, cut through the solid rock of a precipitous mountain side from 600 to 800 feet above the river, cost \$52,000. There are water works, electric lights, telephones, sampling mills, 2 daily papers, 4 churches, and excellent school

facilities. No tax for city purposes has been levied since 1883, the heavy license fees exacted of saloon keepers paying all expenses. There is a court house and a miners' hospital. Ouray is also a resort for invalids. The hot springs from which the river is named—*uneca* (hot) *pah* (water) *gre* (springs) have a temperature in various places of 140°. In winter the heat of the water and its abundant flow prevent the river from freezing, the rising steam giving it the appearance of boiling. The scenery is grand, and fine game abounds. The population in 1880 was 864; in 1885, 1,103.

Pittsfield, a city and the county seat of Berkshire County, Mass., 150 miles from Boston, 50 miles from Albany, and 156 miles from New York city. A beautiful valley stretches north and south through the county, bounded by the Hoosac mountains on the east, and the Taconics on the west, and through this flow the Housatonic and Hoosac rivers, the former southward and the latter northward, from a common watershed. On these rivers and their tributary streams are the largest towns, deriving their prosperity chiefly from manufactures, while the hill towns on either hand are agricultural. The valley towns are from 500 to 1,200 feet above sea level, and the hill towns, from 1,200 to 1,800 feet. The altitude of Pittsfield is 1,100 feet. It is in the valley that pierces the center of the Berkshire hills from north to south, the valley being both widest and highest at the plateau upon which the city is built. The valley narrows both to the north and to the south, so that the city appears to be surrounded by hills about 600 feet higher than the plateau. The city is a mercantile center for 2,500 square miles of country filled with manufacturing villages and farms, the whole not very densely populated in comparison with other parts of Massachusetts. Pittsfield is on the Boston and Albany Railroad, and is also the southern terminus of the Pittsfield and North Adams Railroad and the northern terminus of the Housatonic Railroad. The site of the early settlement was granted to Boston in 1735, and it was known as the Boston plantation until it was incorporated as a village in 1761, when it received its present name in honor of the Earl of Chatham. Pittsfield became a city on Jan. 1, 1891. The population in 1880 was 13,364; in 1890 it was 17,263. The area of the city is 6 square miles. It lies between two branches of the Housatonic river. The streets are broad, are lined with elms and maples on either side, are macadamized, and are lighted with electricity. Electricity also furnishes the motive power for a street railroad 2½ miles long. There is a small park in the center of the city, and a larger one in the suburbs, while two beautiful lakes are in the immediate vicinity. The assessed valuation of the city is \$10,500,000, of which \$7,232,000 is in real estate. The actual valuation is \$18,000,000. The debt is \$422,800. The county property in the city, consisting of the court house, the house of correction, and the jail, is valued at \$300,000. The property of the city in parks and public commons, school-houses, water works, sewers, city hall, engine houses, police station, alms house, and cemetery aggregates nearly \$900,000. The water supply comes a short distance from Ashley Lake, and there is a

fire department well equipped with steamers. The water power in Pittsfield and its vicinity makes the city a large manufacturing center. It has 41 manufactories, with a capital of \$2,000,000 and an annual product of \$5,250,000; employing 3,000 persons, and turning out a great variety of articles. There are 15 mills for the manufacture of woolen and cotton goods, 1 paper mill, 3 shoe factories, and 2 works for the manufacture of machinery. There are 10 churches, with a total valuation of \$360,000. In the 53 schools, including the high school, there was an enrollment of 3,305 in 1890, and an average attendance of 2,366. The expenditure was \$45,000. There are also excellent private schools. The Athenæum, valued at \$175,000, has an art gallery, a museum, and a free library of 17,000 volumes. There is a large opera house, and several smaller public halls. One daily and 4 weekly papers are published, besides several local monthly periodicals. The residences are for the most part of wood, but they are well built and attractive. The business blocks are of brick and stone. The court house is of white marble from Sheffield. The Hospital of the House of Mercy, the Training School for Nurses, and the Old Women's Home occupy substantial buildings. The city has 3 national banks, with a total capital and surplus of \$1,500,000 and deposits of \$1,000,000. It also has a co-operative bank, and a savings bank with deposits of \$2,400,000. The oldest agricultural society in the country is the Berkshire, incorporated in 1810, which has ample grounds for exhibitions.

Plainfield, a city of Union County, N. J. It is 25 miles from the city of New York and is largely composed of homes of business men of that city. On the east are Netherwood Heights, and on the west successive ranges of the Blue mountains, while beyond stretches a rolling country. Plainfield is on the New Jersey Central Railroad, and there are 30 trains a day to and from New York, in addition to two expresses and private club cars. There are 5 or 6 mails a day, and all trains on the Baltimore and Ohio route for Washington, the West, and the South stop at the main depot. Near connection is also had with the Lehigh Valley, Pennsylvania, and Philadelphia and Reading Railroad systems. The population in 1880 was 8,125; in 1890 it was 11,250, an increase of 3,125 (38.46 per cent.). The taxable property of the city in 1888 was \$5,200,000, the real value being \$9,250,000. There is no city debt. The streets are wide and macadamized, with miles of shade trees. There are numerous beautiful residences and many private parks and gardens. High license prevails. Water works are in process of construction, with 25 miles of pipe to be laid, and 250 hydrants located. The supply is from an underground spring, flowing from northwest to southeast. Incandescent electric lights are in use, extending to the suburbs of Netherwood and Evona. Two daily newspapers are published. In addition to 4 public-school buildings valued at \$131,025, in which 35 teachers are employed, there are private institutions, kindergartens, etc. There is also a public library and art gallery (the gift of the mayor), and 13 churches. A new church is being erected by the Seventh-Day Baptists, to cost \$35,000. Muhlenberg Hospital is support-

ed by public contributions. There are 2 music halls, 1 with seating capacity of 1,500, and a large skating rink. The Young Men's Christian Association building is in course of construction. Netherwood Heights has a large summer and winter hotel, and is a popular resort. There is a macadamized drive to First mountain, on the summit of which is Washington's Rock. Two factories in Plainfield manufacture printing presses, and 1 machine tools. Oil-cloths, carpets, and wall-paper rolls are also made, and flour and grain foods.

Quincy, a city of Norfolk County, Mass., 8 miles south by east of Boston, on Quincy Bay, a part of Massachusetts Bay; population in 1890, 16,666. The location is picturesque, the ground rising on the west into hills that command a beautiful sea view. These are adjacent to the Blue Hills of Milton, from the Indian name for which the word Massachusetts was derived. Quincy is a thriving place which (after having been for nearly 250 years, first as part of old Braintree, and later under its present name, a good example of government by town meeting) became, in 1889, a city under a charter specially designed to avoid many of the common evils of city government. Up to 1825 the chief industries of the town were farming and ship building. In that year a quarry was opened in the syenite granite of its hills to build Bunker Hill monument, and the first railway in America was built here in 1826, to transport this stone to the water-side. For many years the Quincy granite was used largely for architectural purposes. Some of the surface boulder granite had previously been employed in building, about 1750, King's Chapel in Boston, and a little later the old Hancock house, on Beacon Street. In 1828 the Stone Church of Quincy was built from its granite, and subsequently many of the large buildings of Boston, notably the Boston Custom House, which has thirty monolithic columns of this stone, weighing 42 tons each. In recent years, owing partly to changes in architectural style, the granite has not been so much used as a building material, but it is in demand for monuments, being suitable for statuary, and also taking a beautiful polish. There are light and dark granites of bluish gray, and some of a pinkish color. In this industry between 60 and 70 firms are engaged, having a capital of nearly \$400,000 exclusive of the quarries, and doing a yearly business of about \$1,500,000. The quarries have been the chief cause of the addition of foreign elements to the population. Many Irish and Scotch have thus come in, and within a few years about a thousand Swedes. Quincy has about a dozen shoe shops, making nearly \$1,000,000 worth a year. There are also miscellaneous manufactures amounting to about \$1,000,000 more. The Old Colony Railroad has 5 stations in Quincy. There are 4 banks and a public-library building which, though not very large, is finely finished and is an example of the work of the celebrated architect Richardson. The library contains about 15,000 volumes. The city has a public high school and a classical preparatory school, Adams Academy, endowed by John Adams, though not established until recently. Its building stands on the site of the birthplace of John Hancock. The schools of Quincy were reorgan-

ized in 1875, and for some years attracted many visitors, special attention having been drawn to their methods by Mr. C. F. Adams's well-known pamphlet on "The New Departure in the Common Schools of Quincy." Within a few years, land has been presented to the town for two public parks. One of these, called Merry Mount Park, is in the immediate vicinity of the historic Merry Mount which gives the name to Motley's historical romance. The old Adams houses still stand, and of the colonial houses two others worthy of note remain. The Vassall house belonged to a Tory family, was sequestered after the Revolution, and was bought by John Adams. In this house he died. The Quincy house was built in 1685. Most of the other old mansions have been destroyed.

Rawlins, the county seat of Carbon County, Wyoming, 193 miles west of Cheyenne, on the Union Pacific Railroad. The population is over 2,000. It is the end of a division of the railroad, and has round houses and machine shops. It ranks third as a distributing point in the State, having an immense freight depot with Government and private warehouses. Wagon trains arrive and depart constantly during most of the year. Daily and tri-weekly mail stage lines leave the city for all accessible points within nearly 200 miles. In 1888, 17,884,251 pounds of freight were received at Rawlins, and 14,794,965 pounds forwarded, 2,001,290 pounds going to Lander, Fort Washakie, and Shoshone Agency. Carbon County contains 12,000 square miles, and the assessed valuation in 1888 was \$3,782,554. The number of cattle in the county was 90,382, valued at \$965,783, and the wool clip was estimated at 1,500,000 pounds. Horses are raised for shipment. In 1888 347,754 tons of coal were mined in the county by the railroad at the cost of \$1.18 a ton. Hematite iron ore exists in large quantities, and 3 miles north of Rawlins is the mine furnishing raw material for red metallic paint, considered the most valuable deposit of its kind in the Rocky mountains. Quarries of fine building stone are in close proximity to the city. The public buildings embrace a court house, which was erected at a cost of \$50,000; a school-house, costing \$35,000; a business block, \$75,000; and the Penitentiary, now in course of construction, which is to cost \$100,000. There are 4 church buildings in the city, with resident pastors.

Richmond, a city and the county seat of Wayne County, Ind., on Whitewater river. Railroads radiate from it in six directions. Fifty-four passenger trains arrive or depart daily from its union station. There are 293 factories in the city, with a capital of about \$4,000,000. These factories employ about 3,000 men, and their annual output is valued at about \$6,000,000. There are 214 mercantile establishments in the city, employing a capital of \$3,600,000, and doing an aggregate business of \$7,000,000 per annum. There are 3 banks. Six and a half miles of electric street railway wind through the city, equipped with the best of cars. A private water-works company supplies water for fire protection and domestic and manufacturing purposes. A private gas company provides artificial gas for street and house illumination, and a private natural-gas company provides natural gas for heating,

conveying the gas from wells 46 miles away. There are 9 public-school buildings in the city, and Earlham College, the largest Friends' college in the West, is here. A new State insane hospital has been completed on the western border of the city, and a new court house, to cost \$275,000, is process of erection. Liberally maintained within the city are 2 orphans' homes, a city hospital, a home for friendless women, and other benevolent institutions. There are 21 churches, and 4 daily and 6 weekly newspapers. There are 2 public parks, one of them of 160 acres. There are 37 miles of improved roadway, and 70 miles of brick and stone sidewalks. A public library, now containing 17,000 volumes, is maintained in part by private endowment and in part by a public tax. The population in 1870 was 9,443; in 1880 it was 12,743; in 1890 it was 16,849.

Rockford, a city and the county seat of Winnebago County, Ill., on Rock river, which divides it in two equal parts. The river here has a strong current and is spanned by three highway bridges (two of iron) and three railroad bridges. Four railroads carry on the traffic of the city, viz., the Chicago and Northwestern, Chicago, Milwaukee and St. Paul, Burlington and Quincy, and Illinois Central. The population of the city in 1890 was 23,507. Since the census was taken several districts have been added to the city, which increase the population by over 3,000. An electric street railway more than 10 miles long connects the different parts of the city. An abundant supply of pure water is drawn from 5 artesian wells through about 40 miles of water mains. Rockford post-office ranks third in the State, and has a free delivery service. The city has 14 large school buildings, a successful business college, and a female seminary, founded in 1849, which has an attendance of about 200. A city hospital association, incorporated in 1883, is in successful operation. A fine Young Men's Christian Association building was erected in 1889. The city has a free public library and reading-room, containing 14,000 volumes. Eight weekly and 4 daily newspapers are published, and there are 8 banks. The main business streets are paved with cedar blocks, and a thorough system of sewerage is carried out. There are 28 churches. The manufacturing interests include 9 agricultural implement works, 1 cotton mill, 11 foundries, 15 furniture factories, 2 glove and mitten factories, a watch factory, a watch-case factory, large silver-plate works, 3 pump factories, 2 paper mills, malleable iron works, a cutlery factory, 2 flouring mills, 3 sash and blind factories, a tannery, bolt works, 3 plow works, 1 factory for the manufacture of steam-heating apparatus, 3 boot and shoe factories, a boot factory, a tack factory, a woolen mill, an artificial stone factory, foot-power machinery works, 3 hosiery mills, 2 spinning mills, a paper-box and bag factory, oatmeal mills, 2 mill-gearing and boiler works, 2 screen factories, 3 churn factories, 3 soap factories, 2 farm-wagon factories, 2 overall factories, 3 carriage factories, 3 clothing factories, 1 burial-case factory, and a factory for the manufacture of electric apparatus, a wire-goods factory, and a stove foundry. Rockford was settled in 1836, and incorporated as a city in 1852.

Rock Island, a city and the county seat of Rock Island County, Ill., on Mississippi river, at the foot of the upper rapids, opposite Davenport, Iowa, 3 miles above the mouth of Rock river, and 160 miles west by south of Chicago. The population in 1850 was 1,711; in 1860 it was 5,130; in 1870 it was 7,890; in 1880 it was 11,659; in 1890 it was 13,471. The bold bluffs on the Illinois side of the Mississippi here recede about a mile, leaving a gently rising plain, on which the city is built. In beauty of scenery healthfulness of location and climate, Rock Island stands foremost among Illinois towns. It is opposite the west end of Rock Island, from which it derives its name. This island, the property of the United States, is 3 miles long, and covers 960 acres. It is well timbered and has graded avenues and handsome drives. It was the site of Fort Armstrong during the Black Hawk War, and of a prison for Confederate captives during the civil war. Here is the central United States arsenal and armory. The design embraces ten immense stone workshops, with a storehouse in the rear of each, besides officers' quarters, magazines, offices, etc. Most of the workshops are completed. The rapids at the head of the island afford excellent water-power. The main channel of the river is on the north side of the island. The stone dam constructed by the United States Government across the southern channel was washed away in the spring of 1888, but appropriations for rebuilding it have been made, and it will soon be completed again. At the lower end of the island a railroad and highway bridge, built by the Government, connects the island with the cities of Rock Island and Davenport. Another bridge across the southern channel connects the upper end of the island with Moline. Rock Island is one of the headquarters of the Chicago, Rock Island and Pacific Railroad, and the western terminus of the Rock Island and Peoria Railroad. Here are also depots of the Chicago, Milwaukee and St. Paul and the Chicago, Burlington, and Quincy Railroads. Five lines of street railway are in operation. The city is lighted with electricity, and is supplied with water by works on the Holly plan, built in 1871 and rebuilt in 1881. A 24-inch inlet pipe, 2,200 feet in length, takes the water from the channel of the Mississippi and conveys it to a settling basin, from which it is pumped by 2 Holly pumps having a capacity of 3,000,000 gallons a day. There are 17 miles of water mains in the city. Rock Island has 25 important manufactures, besides several smaller ones, giving employment to 2,500 persons. The saw and planing mills of Rock Island are among the largest in the lumbering region of the Northwest. The other manufactures include glass, stoves, soap, crackers, books, buggies, carriages, wagons, and agricultural implements. There are 4 banking houses in the city; 2 daily, 1 semi-weekly, and 5 weekly newspapers are published. The city has a free public library containing 10,500 volumes. There are 8 large school-houses, in which 45 regular teachers are employed. A new high-school building has been completed at a cost of \$28,000. Rock Island is the educational center of the Swedish Augustana Synod of the Evangelical Lutheran Church, its oldest institution, the

Augustana College and Theological Seminary, being here. There are 17 professors, 2 instructors, and 300 students. The library contains 8,500 volumes and 5,000 pamphlets. The institution admits both sexes. A new college building has been completed at a cost of \$80,000. There are 15 churches in the city. The history of Rock Island dates from the construction of Fort Armstrong on Rock Island in 1816. A post-office was established as early as 1825. The city has been the county seat of Rock Island County since its organization in 1831.

Saginaw, a city and the county seat of Saginaw County, Mich., at the head of navigation on Saginaw river. It includes East Saginaw and Saginaw City, which were consolidated under an act of March 3, 1890. Two systems of street railway (one electric) and a belt-line road connect all sections of the city. The chief industries are lumber, lath, shingles, salt, flour, mill machinery, furniture, wooden ware, ship building, and leather. The value of manufactured products in 1890 was \$32,000,000, and the business of the wholesale and jobbing houses about \$15,000,000. The city has 2 electric lights, 2 gas, and 2 water systems, 19 public and 8 private schools, 4 daily and 4 weekly newspapers, 11 banks, with \$6,000,000 deposits and \$1,700,000 capital stock, 20 churches, 3 public libraries, and 5 railroad systems, with steamer lines connecting the principal lake ports. The Hoyt Public Library, erected from a bequest of \$100,000 by the late Jesse Hoyt, of New York, was opened in February, 1890. The population in 1860 was 4,700; in 1870 it was 18,810; in 1880 it was 29,590; in 1884 it was 42,867; and in 1890 it was 46,169.

St. Cloud, a town of central Minnesota, the county seat of Stearns County, by rail, 75 miles northwest of St. Paul. The population in 1890 was 7,722. It is on both sides of the Mississippi, below the mouth of Sank river, on a plateau 40 to 50 feet higher than the bed of the stream. It has 4 banks, 1 daily and 3 weekly newspapers, gas and electric-light and power works, water works, and a street railway. It is on the St. Paul division of the Northern Pacific, and on the St. Paul and Fergus Falls division of the Great Northern Railway, and is the terminus of the Osseo branch, the Hinckley and Duluth, and the Sioux Falls divisions of the latter system. It is the seat of the State reformatory for men, opened in October, 1889, and of a United States land office. Near the town are large granite quarries, producing several varieties of very hard and tough granite, from which paving blocks, curbing, and building stone are taken, furnishing one of the principal occupations of the place. The largest water power above Minneapolis has been completed within two years. Various manufactories, including a pulp mill, indurated-fiber works, saw and grist mills and the electric-power plant, get power from the dam. Besides the usual manufacturing enterprises, there is a log-boom business, artificial stone works, and distributing warehouses for agricultural machinery. St. Cloud is the seat of one of the four State normal schools. There is a system of city and numerous parochial schools. It has a public library and ten churches. The business of the town is mainly mercantile. The surrounding county consists of rich farming lands,

well adapted to wheat and stock raising. The locality is within the scope of the "Big Woods," as the great belt of hard-wood timber in central Minnesota is called. Numerous lakes dot the country, and furnish bits of beautiful scenery. One of these lies within the town limits. In 1889 an extensive system of street improvements was begun. The population is largely of foreign origin, the prevailing nationality being German, with the Scandinavian element quite strong. The American population is derived mainly from New York and New England. The number of inhabitants has almost doubled in the past five years.

Sault Ste. Marie, the county seat of Chippewa County, Mich., on St. Mary's river, the connecting link for commerce between Lake Superior and Lakes Huron and Michigan. It was discovered by the French under Cartier, who landed in Quebec in 1535, and were known to have gone as far as the western end of Lake Superior. The earliest permanent settlement was made in 1665, when a mission was founded by James Marquette and Claude Dablon, and a fort and chapel were built for fur traders. Sault Ste. Marie was one of the headquarters of the Northwestern and Hudson Bay Fur Companies, and a mill was built and run by water power, also a lock for transporting the canoes of the Hudson Bay Company, parts of which, with the old post buildings of the company, are still visible. The Indians still retain the right to fish in the rapids, and do a profitable business in trout and white fish. Fort Brady was established in 1822 by Gen. Hugh Brady, of Northumberland County, Pa. The growth of the city dates from the construction of the St. Mary's Ship Canal by the State in 1853. (See description of the enlarged canal, with illustrations, in the "Annual Cyclopaedia" for 1889, page 754.) In 1887 the Duluth, South Shore and Atlantic, and the Minneapolis, St. Paul and Sault Ste. Marie Railroads reached the city and were met by the Canadian Pacific, which crosses the river on the International Bridge. The Grand Trunk road owns an interest in this bridge, and is also building into the city. The St. Mary's river has a fall of 18 feet in less than a mile, with a discharge of 90,783 cubic feet a second, and heavy English and American corporations have been formed for the development of this power. The tonnage of the canal for 1889 was more than 7,500,000 tons, valued at \$83,732,527.15. An accident to the lock of the canal in 1890 delayed the passage of vessels from 4 p.m., July 31, to 8.30 a.m., Aug. 4, and the number of vessels thus delayed was 265. Sault Ste. Marie lies within a rich mineral and lumber district. At present the only manufacturing interest is in lumber; 4 mills, with planing and shingle mills attached, are in operation. The principal business is in fishing, wrecking, general machinery, and merchandise. The city is lighted with electricity, and there are 4 miles of electric street railway. The combined system of drainage is in use. Pumps, with capacity of 500,000 gallons a day, with the Holly system, draw the water supply from the river. There are 2 national banks, with aggregate capital of \$150,000, and 1 savings, with capital of \$50,000. One semi-weekly and 2 weekly newspapers are published. The schools include 4 ward public and 1 high

school, with Catholic schools. The public-school attendance is 847. Six churches own their houses of worship. There are strong organizations of the Young Men's Christian Association and the Women's Christian Temperance Union. The population of Sault Ste. Marie is estimated at about 5,700.

Sioux Falls, the county seat of Minnehaha County and in 1889 the largest city in South Dakota, in the southeastern part of the State, 90 miles from Sioux City, Iowa, on Big Sioux River and the Chicago, St. Paul, Minneapolis and Omaha, the Chicago, Milwaukee and St. Paul, and the Burlington, Cedar Rapids and Northern Railroads. The population in 1880 was 2,164; in 1890 it was 10,154, an increase of 7,990 (369.22 per cent.). The record of building improvements for the year 1887 was \$1,073,285, and for 1888 \$1,452,880. In the same year the city had 3 national banks, with capital of \$350,000, in addition to 3 private and 1 savings bank and 4 loan and trust companies. The daily capacity of the water works is 1,500,000 gallons, and in 1888 there were 8 miles of pipe and 55 hydrants. Electric lights are in use, in addition to gas, and there are street-car and telephone lines. Five brick or stone buildings, two stories in height, have been provided for the accommodation of the public schools, 21 teachers are employed, and there are 1,306 pupils. Four colleges are also at Sioux Falls—Episcopal, Baptist, Catholic, and a Norwegian Normal University—each having fine buildings. At the falls of the Big Sioux the river descends, through a series of cascades, 91 feet in half a mile. Along the stream are the largest exposures of quartzite or jasper granite in America, which furnish the largest business in connection with a natural product in the State outside of the Black Hills. The stone is of various shades and colors—red, green, yellow, etc.—so hard that its sharp points will cut glass like a diamond, and is susceptible of a glass-like polish. The deposits, by estimate of the United States Geological Survey, are from 3,000 to 4,000 feet thick, and at Sioux Falls nearly 80 feet of the rock are exposed. Granite polishing works have been erected in the city at a cost of \$80,000 for preparation of the stone for monumental and ornamental work. In 1889 one of several companies handling Sioux Falls granite reported total shipments to date of the report of 8,414 car loads of paving, and in one year of 350 car loads of building material, to Omaha, Kansas City, Chicago, and other eastern points. Six grades of macadam stone are manufactured. The polishing works have also machinery for working the chaledony or petrified wood of Arizona, which is brought by car loads from that Territory. The city has 2 foundries and machine shops, making light and heavy casting, doing architectural work, and building engines, mill, and elevator machinery; a pump factory; a pork-packing house, with a capital of \$50,000; and 2 flouring mills, with capacity of 500 barrels; \$50,000 are also invested in breweries and \$15,000 in creameries. A large woolen mill has recently been constructed, and there are minor industries, including broom, blank-book, brick, cabinet, candy, cigar, barrel, cornice, frame, jewelry, mineral-water, sorghum, vinegar, wagon, and carriage factories. The South Da-

kota Penitentiary at Sioux Falls is of native jasper, the main building being 54 by 70 feet, with two wings, each 51 by 77 feet. It is supplied with steam-heating apparatus, electric lights, and a fine system of water works. One wing is used for Federal prisoners. The State School for Deaf Mutes occupies two buildings, also of granite, and fitted with modern conveniences, erected at cost of \$53,000. Sioux Falls has an opera house, with seating capacity of 800; Germania Hall, seating 500; and a Knights of Labor hall. Two daily papers are published and 7 weekly, 1 of the last in the German language, and there are 3 monthly publications.

South Bend, a city and the county seat of St. Joseph's County, Ind., on both banks of St. Joseph's river, at the intersection of 4 trunk lines of railroad. The city was laid out in 1831, when it had a population of 150. The population in 1880 was 13,280; in 1890 it was 21,786, an increase of 8,506 (64.05 per cent.). The assessed valuation of property in 1887 was \$5,817,730. The development of manufacturing interests began in 1861. In 1883, South Bend, while the tenth city in Indiana in population, was second only to Indianapolis in the value of manufactured products. In that year nearly \$4,000,000 were invested in grounds, buildings, and machinery, and the aggregate product fell but little short of \$11,000,000. In 1890 the manufacturing establishments of South Bend were 125 in number, including 7 wagon factories, the largest covering 83 acres, with flooring of 24 acres, and employing 1,500 persons. The yearly output is 40,000 vehicles. The additional carriage works of the same plant cover three and a half acres. Other industries are 4 plow works, 3 of which manufactured chilled plows, the output of the largest being 125,000 plows yearly; clover-huller works, selling 1,200 machines yearly, steel skein works (for wagons), boiler works, a sewing-machine-case factory (using 12,000,000 feet of lumber and 500,000 pounds of glue a year), large woolen mills, a shirt factory, machine and cooper shops, a pump company, a large toy-wagon and croquet factory, and a factory of silk and woolen underwear. The city is regularly laid out and has many beautiful residences. The streets are wide and paved, with large and handsome shade trees. The pavements are of stone, cedar block, brick, and cement, the last made from deposits within the county, from which concrete and stone pipe are also manufactured. Large gravel beds lie near South Bend, and the roads entering the city are graveled for miles. Water is supplied from 16 artesian wells 125 feet deep. The stand-pipe is 221 feet high and 4 pumps are in use. The city is lighted with electricity, and street-cars are propelled by the electric motor. A telephone exchange was established in 1880, and a fire-alarm system is in use. There are 9 public schools. The total enrollment in 1887-'88 was 2,380, and the average daily attendance 1,870. The churches number 23. Two daily, 5 weekly, and 1 semi-monthly newspapers are published. About a mile and a half from South Bend is the University of Notre Dame, founded in 1842 and rebuilt after its destruction by fire in 1879. The main building is of white brick and stone, five stories high, with a huge dome springing 70 feet

above its roof and surmounted by a golden image of the Virgin, 14 feet high, whose crown can be illuminated by electric light. The attendance is about 1,000. The Church of the Sacred Heart, near the university, is one of the most beautiful in the United States. St. Mary's Academy for young ladies is also in close proximity. South Bend has a fine opera house, a public library, a hospital, and 4 hotels.

Springfield, a city, the county seat of Hampden County, Mass., on the east bank of Connecticut river, 98 miles west of Boston and 136 miles northeast of New York. When settled in 1636 as Agawam, it included 14 towns, which have since been set off. Springfield was incorporated as a city in 1852, and the population in 1890 was 44,000. Five lines of 4 railroads enter the fine new union station built by the Boston and Albany Railroad in 1889 at a cost of \$750,000. The Boston and Albany has a branch to Athol, and beside these there are the Connecticut River, New York, New Haven and Hartford, Springfield division of the New York and New England. The National Armory was located in Springfield in 1794, the site being selected by Washington. About 350 men are employed in the institution, to which two large brick shops have been added recently, and a third will soon be built. During the civil war the armory employed 3,000 men, and could equip a regiment a day with Springfield rifles. The manufactures include the Smith & Wesson Revolver Works, the Barney & Berry Skate Factory, the National Needle Company, the Morgan Envelope Company, the Wason Car Works, and the Milton Bradley Company, manufacturers of toys. The headquarters of G. & C. Merriam & Co., publishers of Webster's Dictionary, are also in the city. There are 9 national banks, 3 savings banks, a trust company, clearing house, and co-operative bank. The city has 2 fire and a life insurance company, 3 daily and several weekly newspapers. There are 33 church buildings, beside several mission chapels. The Jews also have a society and maintain a synagogue. The public-school system is well maintained with 150 teachers and about 7,500 pupils. There are a high school, a normal training school, a manual training school, and 31 school-houses. The Roman Catholics also maintain 2 parochial schools, with an attendance of 1,300. Of the \$1,177,528 debt of the city, the larger part was contracted in building the Ludlow reservoir water supply, containing over 2,000,000,000 gallons. A fine brown-stone post-office building was erected in 1889, at a cost of \$150,000. The city streets are lined with shade trees, and there are excellent public parks and gardens, including Forest Park, containing over 200 acres, laid out in 1884 and added to since. The free public library building contains over 75,000 volumes, a museum, and the beginnings of an art gallery. The educational and charitable institutions include the Springfield Hospital, dedicated in 1889, the School for Christian Workers, French Protestant College, Homes for the Friendless, Home for Aged Women, and Christian Industrial and Manual Training School.

Springfield, a city and the county seat of Greene County, Mo., 243 miles from St. Louis, received its city charter in 1855. In 1870 the Atlantic and Pacific Railroad was extended

from Rolla to Springfield, and North Springfield was laid out. The two cities voted for consolidation March, 1888, and are now under one municipal government. The population in 1860 was 1,500; in 1870 it was 4,500; in 1880 (exclusive of North Springfield) it was 6,522; in 1890 it was 21,842, an increase of 15,320 (234.90 per cent.). The assessed valuation of city property in 1880 was \$976,875 real estate and \$344,523 personal. In 1888 it was \$3,869,562 real estate and 1,677,720 personal. The tax levy in 1888, for all purposes, was 70 cents per \$100, and the net indebtedness was \$44,000, in 6 per-cent. bonds. The annual revenue derived from licenses and direct taxation is \$60,000. In 1881 the Kansas City, Fort Scott and Gulf Railroad was completed. The general repair and machine shops of this road, and of the St. Louis and San Francisco, are at Springfield, nearly \$1,000,000 having been expended on the plant of the last, which employs more than 900 men. Of the \$300,000 expended in the construction of the shops of the Kansas City, Fort Scott and Gulf, \$20,000 were contributed by the city of Springfield. In these shops 400 men are employed. In 1888 the city pledged \$100,000 to the construction of another railroad line, surveyed and located from Springfield to Chicago, *via* Hannibal, on the Mississippi river, giving transportation direct to the lakes. In 1889 the aggregate capital of 7 banks was \$825,000. Five building and loan associations were also in operation. The total value of church property, owned by 28 churches, was \$500,000. The number of public-school buildings in Springfield in 1887-'88 was 9, with 1 high school. The value of school property was \$365,000. Forty-seven teachers were employed, and the average daily attendance was 2,377. Water works supply water to a reservoir having a capacity of 3,500,000 gallons from a mountain spring 3 miles northwest of the city limits flowing from a cavern that opens out of the Ozark mountains. The combined, or reservoir and direct-pressure system, is in use. In 1889 there were 30 miles of mains and 155 fire hydrants. Two hundred and fifty miles of telephone wire were in use in 1889, with gas and electric lights, and 6 miles of street railway. The value of the manufactured products of the city in 1888 was near \$3,000,000. The establishments included 1 pork-packing house with capital of \$150,000, 1 barbed-wire and 5 galvanized-iron works, 3 lime and cement, 1 furniture, 1 ale and beer, 3 candy, 4 brick, 4 carriage, and 1 wagon factories, 10 of tobacco, 1 cooperage with capital of \$60,000, 5 flour mills with aggregate capital of \$250,000, 2 corn and 4 planing mills, 3 foundries and machine shops, 3 saddle and harness, 1 mattress factory, and minor industries. Annual fairs are held at Springfield by an association owning property in land and public buildings valued at \$250,000. The opera house, erected in 1887, cost \$75,000. The city is the seat of a United States district court, and also of a land office. Five daily, 1 bi-weekly, and 8 weekly newspapers are issued, in addition to 3 monthly publications.

Springfield, a city and the county seat of Clarke County, Ohio. The railroad facilities, 5 distinct systems, afford transportation with convenience to any part of the country. The City-

zens' street railway system has about 20 miles of track. In 1880 the population was 20,730, an increase of 70 per cent. over that of 1870; in 1890 it was 32,159. Springfield ranks first among the cities of the United States as to manufacturing agricultural implements, doing three times as much in that line as Chicago, which ranks second. The implement factories cover acres of ground and miles of floor-space, and furnish employment to thousands of men. Among about 50 large and thriving concerns the products include 113 articles, of which the following are the chief: Reapers, mowers, self-binders, grain drills, seeders, cultivators, plows, barrows, corn planters, thrashing machines, traction engines, gas engines, boilers, feed-water purifiers, all kinds of metal-working machinery and machinist's tools, feed-grinding mills, lawn mowers, steam pumps, wind engines, iron fence, buggies, carriages, wagons, bicycles, tricycles, baby carriages, malleable iron in all forms, steel, furnaces, cigars, and flour. The value of manufactured implements in 1889 exceeded \$10,000,000. The city has a new public library, which cost \$100,000, presented by B. H. Warder. There is a practically inexhaustible supply of pure spring water, which courses through many miles of water-works mains, a fine electric-light system, and a competent fire department. Five national banks and 1 savings bank represent a capital stock of \$1,100,000, with an aggregate surplus of \$613,000, and a combined deposit of \$2,184,617.88. There are 2 gas companies, fuel and illuminating. The city contains more than 40 churches, and other places of worship, 14 public schools, several private institutions, and a business college, and many benevolent organizations, besides a board of trade. A new city building has been completed at a cost of \$225,000, and also a new Government building which cost \$115,000. Several miles of pavement have been laid in the past year. Thirteen papers and periodicals are published here.

Superior, a city, the county seat of Douglas County, Wis. The site was pre-empted in June, 1853, by D. A. J. Baker, R. R. Nelson, and D. A. Robertson, because they had received at St. Paul semi-official information that a large grant of land would be made to aid in constructing the Northern Pacific Railway, one of its termini to be on Lake Superior and the other on the Pacific Ocean. The Government had also granted 750,000 acres of land to aid the State of Michigan in constructing the St. Marie locks and canal, the contract for which was let and ground broken on June 4, 1853. Several thousand acres of level plateau along Superior and Allouez Bays, from 30 to 50 feet above the water, and intersected by a navigable stream called Nemadji river, were platted, with liberal reservations for churches, avenues, parks, public buildings, railways, school houses, and docks. The entire town site, in the midst of unsurveyed timber lands and surrounded by Chippewa Indians, was then deeded to a corporation or company in exchange for stock. Each share holder owned, therefore, not any particular piece of land, but an undivided interest in the entire city of Superior. The principal proprietors were Stephen A. Douglas, W. W. Corcoran, George W. Cass, John C. Breckinridge, Rensselaer R. Nelson, Robert J. Walker, Ed-

mund Rice, W. A. Richardson, Jesse D. Bright, John W. Forney, R. M. T. Hunter, D. O. J. Baker, James Stinson, and Horace S. Walbridge. The canal was opened in 1855, affording vessel communication with Lake Superior; mines of copper and iron were discovered near by; railways began to head for Superior; large sums of money were expended in docks, hotels, streets, dwellings, and general improvements; and the city grew as if by magic. When the crisis of 1857 paralyzed the country, Superior contained not fewer than 5,000 inhabitants—the growth of two years. The civil war followed, and the city dwindled to a few scores of people, who subsisted in a very primitive manner, without telegraphic, steamboat, railway, or stage communication with the outside world. The great corporation that owned the city was abandoned, and its stock was lost, hypothecated, given away, subdivided, or sold for taxes. In 1881 the Northern Pacific Railway Company built a branch to Superior Bay. During that year Gen. John H. Hammond went to Superior and began quietly to acquire property, "for the purpose," as he said, "of building a city to rival Chicago in commercial importance." In 1884 he had secured good title to several thousand acres of land, and in February, 1885, he filed the plat of West Superior, adjoining the original plat on the west. In 1887 the village, and in 1889 the city of Superior was chartered, including both plats and covering about 42 square miles, water frontage to the outer dock lines inclusive. Up to the spring of 1888 the growth consisted mostly of the shanties of workmen engaged in building docks, clearing streets, erecting elevators, laying railway tracks, etc.; but during 1889-'90 the increase in commerce, trade, manufactures, population, public improvements, fine dwellings, and wealth was enormous. The city has 3 large, land-locked harbors—navigable water on three sides—besides Nemadji river through the center of the plat; 7 great railroad systems, including the Canadian Pacific, Great Northern, Northern Pacific, and Chicago and North Western; terminal and belt-line railways; electric street railway system; 5 daily and 5 weekly papers; 2 national and 7 State banks; 2 loan-and-trust companies; 2 ferry lines; an immense steel mill and pipe foundry; a woolen mill; a printing-press manufactory; American Steel Barge Works, which manufacture the McDougall "whaleback" barges and steamers for lake and ocean traffic; wagon works; chair and furniture factories; Hooper Steel Refining Works, for producing edged tools; 5 elevators, with a storage capacity of 9,000,000 bushels; blast furnace and coking ovens; 4 saw mills; Standard Oil Company's tanks, warehouses and yards; an open-hearth furnace and rolling mill; 6 enormous coal wharves; several large merchandise wharves and flour houses; besides brick yards; planing mills; breweries; water, gas, and electric-light and power works; tile, Portland stone, and sewer-pipe works; a dozen hotels; 5 railway stations; a splendid stone chamber of commerce, six stories high; brick and stone churches and school-houses; 2 boat clubs and 2 commercial clubs; and the finest railway terminals and water privileges on the Great Lakes. By the State census of 1885, the entire county of Douglas (no Superior then) con-

tained 2,704 inhabitants. Polk's "Directory," issued in September, 1889, contained 4,959 names for Superior, and that for September, 1890, 9,960 names—showing a population of 10,000 in 1889, and over 20,000 in 1890. The assessed valuation for 1890 was \$22,960,390. Taxes are comparatively light. Public improvements are easily and cheaply made by reason of the level location, and assessments for sewers, pavements, etc., are payable in five equal annual installments instead of in one payment, as in other cities. The value of lake commerce for 1889 was \$28,053,730, and for 1890 (partly estimated) \$40,000,000. The climate is not subject to marked or sudden changes except in the spring. The atmosphere is clear and dry, and the winters bright and sunny, less severe though longer than at points farther South and away from Lake Superior. Recently a corporation known as the Consolidated Land Company was formed, which gathered in several thousand acres of the first plat, so that the sons and grandsons of the original proprietors, most of whom had never heard of the early operations at the head of Lake Superior, nor of Superior itself, are now daily dropping into fortunes. The "Eye of the Northwest," a large and handsomely illustrated volume, published by Frank A. Flower at the expense of the city, to be had by paying postage, gives a complete history of the place. South Superior, East Superior, West Superior, and Old Superior are all one—all Superior, with the same water works, school system, mayor, council, and other officials. The great land companies, which are doing so much to promote the growth of the city, operate in different quarters, and give rise to the names above mentioned. Their combined wealth is more than \$20,000,000.

Terre Haute, a city and the county seat of Vigo County, Ind., on Wabash river, 73 miles west of Indianapolis. The population in 1890 was 39,287. It is equidistant from the three greatest markets and distributing points in the West, viz, Chicago, St. Louis, and Cincinnati. Its 9 railroads give Terre Haute 2 routes east, 2 to St. Louis, or 3 to the west, 2 to the north, and 2 to the south. Fifteen miles of street railway are in operation, using electric motors. The State Normal School here is one of the most successful institutions of the kind in the United States. The Rose Polytechnic Institute is endowed with more than \$500,000. Coates College is for the higher education of young women, and there is a fine system of public schools, with a high school. The Rose Orphan Home, richly endowed by the late Chauncey Rose, and designed for the orphan children of Vigo County is east of the city. The horse and cattle breeding interests of Vigo County represent an investment of more than \$1,000,000. The agricultural grounds have a fine race track. The water-works company has recently spent \$300,000 in putting in new filters, erecting buildings, and adding the latest improvements of the Holly system. The chief industries are tinned goods (forks, hoes, and rakes), flour, iron, nails, cars, engines, beer, brick, straw board, stoves, hubs and spokes, wagons, carriages, high wines, crackers, hominy, electric motors, piano cases, barrels, and staves. The city has a public library, electric light, an illuminating gas and a fuel

gas company, and 6 banks. The court house, recently completed at a cost of \$500,000, is one of the most imposing structures in the State. Veins of semi-block and bituminous coals, varying in thickness from 3 to 8 feet, underlie the city; and there are 3 oil wells, the first drilled in May, 1889, with a daily output of 300 barrels.

Tonawanda, a village of Erie and Niagara Counties, N. Y., divided by Tonawanda creek. It is on Niagara river and the Erie Canal and on branches of the New York Central and Lake Erie and Western Railroads. One hundred and fifty trains pass through it daily. The population in 1880 was 4,500; in 1890 it was 12,500. The principal industry is lumber, this being the second lumber market in the United States. It has 10 miles of wharves with 12 harbor tugs. The receipts of lumber in 1879 were 250,000,000 feet; in 1889, 700,000,000 feet. The round timber received and manufactured in 1889 measured 50,000,000 feet. There are 13 planing mills, 7 shingle mills, 3 saw mills, and 21 lumber firms; one brewery manufacturing 10,000 barrels of beer annually, and large iron and steel works employing 200 men, which has expended \$150,000 in the past year for building and enlarging the business. The value of buildings erected in the past two years is \$1,000,000. The increase in assessed valuation in two years is 40 per cent. Fifteen miles of sewerage are being built at a cost of \$200,000. The village has the Holly system of water works, over 20 miles of water pipe, 15½ miles of gas pipe, and 500 street lamps. Natural gas is extensively used and electric lights are being put in. There are 16 churches, 4 public schools, 3 banks, 3 foundries, and 2 flouring mills.

Truro, the county seat of Colchester County, Nova Scotia, near the head of Cobequid Bay, at the junction of the Intercolonial Railroad and its Pictou branch, 62 miles by rail north of Halifax. The population in 1881 was 3,461; in 1890 it was estimated at 5,000. The town is well laid out, having regular streets, an abundance of shade trees, 2 public squares, and, in the suburbs, a beautiful park. Its private residences and grounds are attractive. It is amply supplied with electric lights, telephones, and water service. It has 7 churches, 2 banks, 2 weekly newspapers, and 8 hotels. The provincial normal school, the model school, and the county academy form an imposing group near the center of the town. The normal school has 6 teachers and an average attendance of 150. The model school, which forms a school of observation for the students of the normal, employs 2 teachers, and has an attendance of 110. The public schools of Truro, including the academy, employ 17 teachers, and the total attendance, including those at the model school, is 1,000. The Young Men's Christian Association have a commodious building. There are manufactories of hats and caps, leather, pegs and lasts, furniture, woolen goods, condensed milk, flour and meal, steam engines and boilers, mining machinery, rotary mills, and iron bridges. The recent growth of Truro is illustrated by its assessment, which (representing about two thirds of the real value) in 1879 was \$996,450, and in 1889 was \$1,370,348. For the fiscal year 1888 customs duties were paid to the amount of \$77,524.44.

Watertown, a city and the county seat of Jefferson County, N. Y., on the main line of the Rome, Watertown and Ogdensburg Railroad. The town lies along the northern and southern banks of Black river, which furnishes water power to rapidly increasing manufactories. The population of the city is 14,700. The leading industries are the manufacture of paper, portable and stationary steam engines, vacuum brakes for locomotives, wagons and sleighs, lamps, thermometers, doors, sashes, and blinds. Milling and foundry operations are also extensive. The annual output of paper from all the mills is about 8,000 tons. Ten thousand wheeled vehicles are manufactured yearly. The annual freight tonnage from Watertown by rail is 36,000 tons. One daily and 5 weekly newspapers are published. There are 5 national banks, with an aggregate capital of \$911,240, besides 1 savings bank having deposits amounting to \$1,513,572.15, with a surplus of \$160,338.81. The city is lighted by electricity, and an electric street railway is in process of construction. A soldiers' monument, presented by a citizen, is being erected in the public square at a cost of \$10,000. A Government building for a post-office is also under contract, to be completed by 1892, at an expenditure, including the lot, of about \$75,000. Public water works have been established, and the drainage of the city is excellent. There are 13 churches, and a Young Men's Christian Association, a city hospital, an orphan's home, and the Keep Home for aged people. There are 8 public schools, besides an academy and a boarding school. The streets are well shaded and well kept.

Williamsport, a city and the county seat of Lycoming County, Pa., on the west branch of Susquehanna river, about 40 miles above the forks near Sunbury. The original town plot was laid out by Michael Ross, owner of the tract, which consisted of about 100 acres. The village was incorporated as a borough March 1, 1806. The population in 1810 was 365, in 1890 it was 27,107. The present territory is 1 mile wide and 7 miles long. But little progress was made in material prosperity until after the organization of the Susquehanna Boom Company, in 1849, now a large corporation. The lumber business has grown in volume year by year, until the average annual output is about 1,000,000 logs, representing a board measure in feet of about 175,000,000; and 25 saw mills receive their stock of logs through the Boom Company. The amount of money invested in mills and timber lands is about \$9,000,000. In addition to the saw mills there are 12 planing mills, 4 large furniture manufacturing companies, 2 large kindling-wood factories, and 2 paint mills; of iron industries there are 4 engaged in the manufacture of wood-working machinery, 2 in building engines and machinery, and machine repair shops, also 1 large iron and nail works. Among the miscellaneous manufactures are some large ones lately introduced: The Decorative Works, making patent wood decorations for public and private buildings, cars, etc.; the Lycoming Rubber Company, with an output of \$700,000 annually; the Disston Musical Instrument Company; the Williamsport Brick Company, manufacturing by a new process; 1 large saw

manufacturing Company; 3 shirt manufacturing companies; a cigar and paper box factory; a flint and emery-cloth company; several flouring mills; a sewing-machine company; and 4 wire-buckle suspender companies. These industries give employment to about 7,000 persons, and have a capital of about \$15,000,000. Eight daily and weekly papers are published. There are 9 banks and banking institutions with a capital of about \$1,700,000. The gas and water and steam heat are furnished by private corporations. The streets are lighted with electricity. Five railroads pass through the city. There are 42 churches and missions; a paid fire department with 4 steam engines, 5 hose carts, and 1 Hayes truck; 1 high school and 14 other school buildings. The bonded debt outstanding is \$698,300; the tax valuation for 1890 was \$8,000,000; the tax levy for all purposes is 18 mills on the dollar. The city owns two parks, one given by Michael Ross, the other, Brandon Park, almost 50 acres, presented to the city by Boyd Cummings, of Philadelphia.

Winona, a city and the county seat of Winona County, Minn., on Mississippi river. It was incorporated in 1857. The population in 1880 was 10,700; in 1890 it was 18,264. It has a fine system of water works with 22 miles of mains, and a paid fire department. The streets are lighted with electricity and gas. There are 6 miles of street railway, and telephonic communications with all the surrounding towns, including St. Paul and Minneapolis. The railroads running into or through Winona are the Chicago, Milwaukee and St. Paul, the Chicago and Northwestern, the Chicago, Burlington and Northern, the Winona and St. Peter, the Winona and Southwestern (now being rapidly constructed to Missouri river, with western termini thereon at Sioux City and Omaha), and the Green Bay, Winona and St. Paul. The Mississippi river is open for navigation by the largest steamers for a period of more than 8 months each year. Winona is rapidly growing as a commercial and manufacturing city. It is the mart for nearly 200,000 people who occupy the territory contiguous to it in Wisconsin and in southeastern Minnesota, and who are engaged largely in agriculture and stock raising. The city has 5 banks, with an aggregate capital of \$1,300,000, and with deposits reaching \$1,500,000. Winona is at the southwesterly extremity of the great lumber region of northern Wisconsin, and at the point where this lumber has its greatest outlet to supply the vast timberless areas in southern Minnesota, southern Dakota, northern and central Iowa, Nebraska, and Kansas. This has made Winona one of the largest lumber manufacturing cities in the United States. Its 4 great saw mills have a capacity of 500,000,000 feet of lumber annually. It also has extensive planing mills and sash and door factories. The capacity of the six flouring mills is 1,500,000 barrels annually. The other important manufactures in Winona include wagon works, which manufactures 5,000 wagons a year, plow works, indurated fiber works, Harvester works, and 3 carriage manufactories. The number of persons employed in the manufactories of Winona is 3,500. Winona has 5 weekly and 2 daily newspapers. Its public schools rank high in the

northwest. The first State Normal School of Minnesota is in this city, and is one of the largest and most prosperous in the United States. Winona has a free public library, supported by an annual tax. The assessed valuation of the property of this city is \$7,000,000. It has a bonded indebtedness of \$325,000, and no other indebtedness. Its public buildings are a United States Government building, in process of construction, to cost \$150,000; the State Normal School building, erected at a cost of \$150,000; a court house, completed at a cost of \$130,000; 2 high-school buildings and 4 ward-school buildings, costing in the aggregate \$240,000; city hall; public library; 22 churches; and a hospital.

Youngstown, a city, and the county seat of Mahoning County, Ohio, on Mahoning river, 65 miles from Cleveland, and 68 from Pittsburg, Pa. The population in 1870 was 8,075; in 1880 it was 15,435; in 1890 it was 33,199, an increase of 17,764. The railroads that enter the city are the New York, Pennsylvania and Ohio, the New York, Lake Erie and Western, the Pittsburg and Lake Erie, the Pittsburg, Cleveland and Toledo, the Pittsburg and Western, the Pittsburg, Fort Wayne and Chicago, the Lake Shore and Michigan Southern, the Lake Shore and Painesville, the Ashtabula and Pittsburg, and the Fairport and Pittsburg. In 1888 \$5,554,500 were invested in manufactures, with an annual product of \$8,968,760; 6,514 persons were employed, of whom 5,849 were men, 231 women, and 434 boys. The manufacturing establishments were: 4 of merchant iron, 1 of bolts and nuts, 2 of steam boilers, 1 of engines, 1 of carriages, 2 of pig iron, 1 of iron fencing, 1 foundry and machine works, 1 of tinware, 1 of scales, 1 of stoves, 1 of wrought-iron pipes, etc., 1 of washed iron, 2 planing mills, 2 door and sash factories, 2 flour mills, and 1 ale and beer factory. Sixteen blast furnaces and as many mills were in operation in 1890. Natural gas is in use in addition to coal. The coal production in Mahoning County in 1887 was 272,349 tons; and of the 10,910,946 tons produced in the State in 1888, 331,035 were from Mahoning County. Four iron mines produced 13,279 tons of black band and 500 tons of hematite. One mine of fire clay produced 400 tons. The assessed valuation of the city in 1888 was \$6,303,520, and the rate of taxation 27.2 mills on the dollar. Youngstown has water works, gas and electric lights, a paid fire department, telegraph and telephone facilities, paved, curbed, and sewered streets, 2 daily and 3 weekly newspapers (one of the last being in the German language), and a street railway propelled by electricity. Three national banks, in 1888, had an aggregate capital of \$900,000, and 1 savings bank a capital of \$49,150. The public schools had in 1888 an average daily attendance of 2,701. There are 10 public-school buildings, valued at \$335,000, in which 57 teachers are employed.

Zanesville, a city and the county seat of Muskingum County, Ohio, on Muskingum river at the head of slack-water navigation, 74 miles north of Marietta and 60 miles east of Columbus. The population in 1890 was 21,117. It was originally called the town of Woodbourne when plotted in 1798; a few years later it was given the name of the surveyor of the "Zane

trace." In 1800 Zanesville became the capital of Ohio, and it enjoyed the distinction two years. In the early years of her history the thriving town became a prosperous manufacturing center, and the unexcelled water power afforded by Muskingum and Licking rivers was utilized. With the march of progress the water wheels were largely displaced by steam, but still the current of the two rivers furnishes the motive power for many mills and factories. The manufacture of machinery—mining, ore crushing, smelting, and for agricultural purposes—forms the leading industry, and the value of the product reaches large figures annually. Here was born the portable engine forty years ago, and its manufacture is still continued. The superiority of native clays is manifest in the production of encaustic tiles not surpassed in the world. This business has grown to enormous proportions, necessitating an immediate enlargement of the plant. The manufacture of building and paving brick is a great industry, and only within recent years have the citizens of the valley come to realize the value of the clays in the hills surrounding the city and skirting the river for many miles south. Coal is abundant, easily mined, and cheap. In not a few instances the fuel is delivered on truck cars from the mine to the factory, or transported a short distance over steam railways. Eight railroads enter the city, and with Muskingum river, now under control of the United States Government, furnish superior shipping facilities. A belt line connects the railway system of the city. Two large laundry-soap factories are located here. There are 30 churches, 25 school-houses, a public library, and an orphans' home. An electric plant and the oldest gas works, save one, in Ohio, furnish light. Three daily, 6 weekly, and 2 Sunday newspapers are published in the city. The financial business is conducted by 6 banks. An electric street railway traverses the city. The water-works system is well-nigh perfect, and, together with a well-organized fire department, has kept the maximum loss by fire below an average of \$20,000 annually for fifteen years. The growth of Zanesville since 1860 has been uninterrupted.

COLOMBIA, a republic in South America. The federation, through the revolution of 1885, was changed into a centralized government, the nine sovereign States being reduced to departments administered by governors appointed by the President of the republic, whose term of office was extended to six years, instead of two. The Senate consists of 27 members, three from each department, and the House of Representatives of 66 members, elected by universal suffrage on a collective ticket for each department in the proportion of one member for each 50,000 inhabitants. The President is Don Rafael Nuñez, who entered on his office on June 4, 1887. (For details of area and population see "Annual Cyclopædia" for 1886 and 1887).

Finances.—For the year ending June 30, 1890, the revenue was estimated at 18,173,700 pesos, and the expenditure at 23,852,806 pesos. For 1890-'91 the estimate of revenue is 19,540,700 pesos, and of expenditure 24,513,232 pesos. The revenue is mainly derived from customs. The domestic debt is officially given as 29,605,551 pesos, not reckoning 7,500,000 pesos due on

account of the late war with Chili and the paper currency, amounting, on Sept. 30, 1889, to 11,932,780 pesos, the limit established by law being 12,000,000 pesos. The foreign debt, which is owed for the most part in England, amounted in July, 1889, with the addition of ten years' accrued interest, to £2,878,203. Negotiations for a reserement are on foot.

Public Affairs.—Import duties were imposed on alcoholic liquors, salt, and tobacco in the session of 1890. When the law was promulgated the Chamber of Commerce raised the objection that under the Constitution no law imposing new taxation can take effect until six months after publication. The Government therefore postponed the operation of the act till Jan. 10, 1891. The chief object of the merchants was to gain time to import free of duty such quantities of the taxed articles as to render the law useless for revenue purposes for two or three years. This design is defeated by an amendment of the act making all articles specified in the act that are in stock on Jan. 10, 1891, liable to duty. A popular petition in favor of the exclusion of Chinese immigrants was made the basis of legislative action by the Assembly of the Department of Panama.

Commerce.—The imports in 1887 were valued at 8,592,689 pesos, and the exports at 13,963,227 pesos. In 1888, according to a British consular report, there was an improvement in trade, the imports rising to 10,642,250 pesos, and exports to 16,668,180 pesos. The chief imports are food substances and textile fabrics, and the chief exports coffee, cinchona bark, the export of which has fallen away in recent years, earth-nuts, grain, silver ore, cacao, dye stuffs, live animals, and tobacco. Of the imports in 1887 Great Britain furnished 3,611,755 pesos; France, 1,790,778 pesos; the United States, 937,495 pesos; and Germany, 843,725 pesos. Of the exports, 3,456,608 pesos went to England in 1887 and 4,005,890 pesos in 1888; 3,020,716 pesos to the United States in 1887 and 4,776,660 pesos in 1888; 1,311,436 pesos to Germany in 1887 and 1,483,420 pesos in 1888; and 1,073,096 pesos to France in 1887 and 1,157,430 pesos in 1888. Coffee was exported of the value of 3,781,260 pesos in 1888; hides, 1,604,860 pesos; gold in bars and gold dust, 1,491,300 pesos; coin, 1,325,860 pesos. In the trade returns the imports and exports of the Isthmus of Panama are not included. The transit trade of the isthmus is estimated at \$75,000,000 a year, two thirds representing the shipments from the Pacific to the Atlantic, and one third those in the opposite direction.

Navigation.—During 1888 there were 772 vessels, of 714,194 tons, entered at Colombian ports, not including those of Panama. Of these 557, of 693,632 tons, were steam vessels. Of the total tonnage, 410,939 tons were British.

Railroads.—There were two lines of railroad complete and five others partly built in 1888, the total length being 148 miles.

The Post-Office and Telegraphs.—The post-office carried 1,063,504 letters, 411,988 papers, etc., and 15,813 registered letters and packets in 1888. The telegraph lines had a total length of 2,800 miles, with 200 miles more in construction.

Boundary Questions.—Disputes that have arisen between the Colombian Government and

the governments of Costa Rica and Venezuela regarding boundaries, have been referred for arbitration to the Spanish Government. The debatable territory on the Costa Rican frontier has been surveyed with the view of ceding it to an American company, of which Minor S. Keith is the head, for the purpose of colonization, if the claim of Costa Rica is upheld.

The Panama Canal.—The French company formed by Ferdinand de Lesseps to pierce the Isthmus of Panama and unite the Atlantic and Pacific Oceans with a canal 46 miles long raised, up to June 30, 1886, 772,545,412 francs of capital. It was estimated that nearly as much more would be required to bring the work to completion. An effort was made in December, 1888, to raise 600,000,000 francs by a loan, but only a few bonds were subscribed for, and the company became embarrassed. An attempt to organize a new company proved unsuccessful, and the company was compelled to suspend payments, cease operations, and go into liquidation. The work was stopped in March, 1889, and provisional administrators were appointed by the French Civil Court in the Seine Department. A commission of inquiry appointed by the receiver reported in May, 1890, that the completion of the canal on the lock system would probably cost 485,000,000 francs, to which 20 per cent. should be added for unforeseen expenses and 29 per cent. for interest and management during the eight or nine years required for the completion of the work, making a total of 900,000,000 francs. The annual cost of maintenance and administration after completion was estimated at 10,000,000 francs, and the net receipts at 38,000,000 francs for the first three or four years, rising to 61,000,000 francs twelve years after the opening. The material and work of the old company are placed at a valuation of at least half of the 900,000,000 francs still required. The commission suggested that the governments of maritime states should guarantee the interest on the capital. The toll that was calculated to pay the interest, 15 francs per ton, the commission considered to be too high, and suggested 12 francs, which is still about 25 per cent. above the Suez Canal tolls. Negotiations for the renewal of the concessions were carried on during the summer of 1890 by Lieut. Wyse on the part of the company and the Colombian Government.

COLORADO. a Western State, admitted to the Union Aug. 1, 1876; area, 103,925 square miles. The population, according to each decennial census since admission, was 194,327 in 1880, and 410,975 in 1890. Capital, Denver.

Government.—The following were the State officers during the year: Governor, Job A. Cooper, Republican; Lieutenant-Governor, William G. Smith; Secretary of State, James Rice; Treasurer, W. H. Brisbane; Auditor, Louis B. Swanbeck; Attorney-General, Samuel W. Jones; Superintendent of Public Instruction, Fred. Dick; State Engineer, James P. Maxwell; Chief Justice of the Supreme Court, Joseph C. Helm; Associate Justices, Charles D. Hayt, and Victor A. Elliot.

Population.—The national census returns of 1890, showing the population of the State by counties, are compared with similar returns for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Arapahoe	85,644	181,802	96,158
Archuleta .....	.....	823	823
Baca .....	.....	1,474	1,474
Bent	1,654	1,820	* 894
Boulder	9,753	14,054	4,281
Chaffee	6,512	6,554	72
Cheyenne .....	.....	527	527
Clear Creek	7,823	7,157	* 666
Conejos	5,605	7,175	1,570
Costilla	2,879	3,481	602
Custer	8,080	2,928	* 5,122
Delta .....	.....	2,529	2,529
Doiores .....	.....	1,484	1,484
Douglas	2,486	3,002	516
Eagle .....	.....	8,722	8,722
Elbert	1,708	1,822	114
El Paso	7,949	21,208	13,254
Fremont	4,785	9,118	4,333
Garfield .....	.....	4,468	4,468
Gilpin	6,489	5,858	* 631
Grand	417	603	186
Gunnison	5,225	4,839	* 3,896
Hinsdale	1,487	858	* 629
Huerfano	4,124	6,556	2,432
Jefferson	6,804	8,429	1,625
Kiowa .....	.....	1,254	1,254
Kit Carson .....	.....	2,465	2,465
Lake	28,563	14,619	* 8,944
La Plata	1,110	5,490	4,380
Larimer	4,892	9,689	4,797
Las Animas	5,903	17,154	6,251
Lincoln .....	.....	689	689
Logan .....	.....	3,060	3,060
Mesa .....	.....	4,239	4,239
Montezuma .....	.....	1,462	1,462
Montrose .....	.....	4,057	4,057
Morgan .....	.....	1,582	1,582
Otero .....	.....	4,169	4,169
Ouray	2,660	6,477	3,817
Park	3,970	8,597	* 4,627
Phillips .....	.....	2,639	2,639
Pitkin .....	.....	5,888	5,888
Prowers .....	.....	1,962	1,962
Pueblo	7,617	81,899	74,282
Rio Blanco .....	.....	1,198	1,198
Rio Grande .....	.....	1,483	1,483
Routt	140	2,369	2,229
Saguache	1,973	8,294	6,321
San Juan	1,087	1,562	475
San Miguel .....	.....	2,902	2,902
Sedgwick .....	.....	1,291	1,291
Summit	5,459	1,906	* 3,553
Washington .....	.....	2,298	2,298
Weld	5,646	11,714	6,068
Yuma .....	.....	2,592	2,592
Total	194,827	410,975	216,648

* Decrease.

The population of the chief cities is as follows: Pueblo, 28,128, an increase of 24,911 since 1880; Leadville, 11,159, a decrease of 3,601; Denver, 106,670, an increase of 71,041.

Valuations.—The assessment of the State for the year 1889, as corrected by the County Boards of Equalization, includes the following items: 10,610,482.63 acres of land, \$35,275,526.94; improvements on lands, \$6,178,187.71; town and city lots, \$57,514,962; improvements on town and city lots, \$22,709,223; mining property, \$3,585,645; capital employed in manufactures, \$785,997; 184,879 horses, \$5,816,259; 11,043 mules, \$509,917; 1,185 asses, \$10,428.75; 838,414 cattle, \$8,340,775.50; 675,330 sheep, \$699,931.75; 20,797 swine, \$59,730.85; 11,134 goats, \$10,821.50; 2,539 other animals, \$38,299. The total assessed value is \$193,254,127.38.

County Debts.—Five counties in the State are reported without debt: Morgan County owes between \$1,000 and \$5,000; Kit Carson and Sedgwick, between \$5,000 and \$10,000; Routt, Yuma, and Kiowa, between \$10,000 and \$20,000;

Archuleta, Costilla, Baca, Gunnison, and Park, between \$20,000 and \$35,000; Montezuma, Delta, Grand, Otero, Prowers, and Rio Blanco, between \$35,000 and \$50,000; Larimer, Lake, Custer, Clear Creek, Gilpin, and Rio Grande, between \$50,000 and \$75,000; Dolores, Mesa, San Miguel, and Saguache, between \$75,000 and \$100,000; Conejos, Montrose, Garfield, Eagle, Summit, Jefferson, Arapahoe, Fremont, and Bent, between \$100,000 and \$250,000; Ouray, Chaffee, and Pueblo, between \$250,000 and \$500,000. The total county debt is \$3,190,258, of which \$1,834,421 is a bonded debt, and \$1,355,837 a floating debt. The increase of total debt in the last decade was \$697,817.

Coal.—The best-known and most extensively worked coal fields of Colorado are in Boulder and Las Animas Counties, while large veins and strata are found in Fremont, Garfield, Gunnison, Huerfano, and La Plata. The area of coal-bearing sections in the State is said to exceed 26,000,000 acres. The following are the official statistics of coal produced in the past five years: 1885, 1,398,796 tons; 1886, 1,436,211 tons; 1887, 1,791,735 tons; 1888, 2,185,477 tons; and 1889, 2,500,000 tons. The average price paid to miners throughout the State is 71 cents a ton of 2,000 pounds for mining and timbering.

Precious Metals.—The product of precious metals in the State for 1889 was valued at \$28,074,888. Of this total, \$3,534,790 was the gold dust and bullion product, \$19,341,847 the silver-bullion product, and \$5,198,251 ores and base bullion. The output of the Leadville district alone was more than \$13,000,000.

Insurance.—The total amount of risks written in the State by fire companies during 1889 amounted to \$75,992,207.15, an increase over the business of 1888 of \$14,393,213.95, or 23.4 per cent. The premiums collected amounted to \$1,324,265.73, an increase of \$203,187.86, or 18.21 per cent. over the corresponding receipts of 1888. There were 123 companies doing a fire-insurance business in the State during the year, only one being a local company. In the life-insurance business 6,861 policies, aggregating \$12,563,338.58, were written in the State as against 2,222 policies, aggregating the sum of \$8,974,613, for the previous year.

Decisions.—In response to an inquiry from the Governor, the State Supreme Court, in September, delivered an opinion on the question whether the amendment to the State Constitution adopted by the people in November, 1888, permitting counties to fund or refund their indebtedness existing prior to Dec. 31, 1886, should be construed to forbid the funding or refunding of county debts incurred subsequent to that date. The decision of the court was that such funding or refunding was not forbidden.

In June the district court of Arapahoe County pronounced the military tax act of the last General Assembly to be unconstitutional. This act subjected delinquent poll-tax payers to a penalty of \$25.

Suits against State Officers.—The indictments for conspiracy to defraud the State which were framed by the grand jury of Arapahoe County in July, 1889, against Secretary of State Rice and various contractors for supplies furnished to the last General Assembly, were found

to be defective in form by the district judge in January, 1890, but another grand jury then in session framed new indictments which were held to be in proper legal form. The first case brought to trial under these indictments was against the Secretary of State and Collier & Cleveland, contractors for State printing. The trial began on April 22 and continued nearly three weeks. On the part of the prosecution strong efforts were made to show that the Secretary of State had approved the excessive printing bills of these contractors in pursuance of an unlawful agreement by which he expected to share in the profits of the contracts. The jury, not finding sufficient evidence to sustain this charge, brought in a verdict of acquittal, but added the following supplemental statement:

The jury are convinced that there have been gross overcharges made in the bills presented to them for consideration.

We are convinced that the Secretary of State did not have that regard for the interests of the people that a proper appreciation of the duties of his office demands; that there was gross carelessness and neglect in the procuring of supplies and arranging for the economical purchase of same—such carelessness and neglect as call for like censure. Though other State officials are not on trial at this time, we feel that equal if not greater carelessness prevailed in the office of the State Auditor and on the part of the measurer of State printing, for without such neglect of duty on the part of these officers it would not have been possible to secure warrants in settlement of accounts that were manifestly wrong not only in the items charged, but also in the computation, which should have been apparent to an accountant of the most limited experience.

This verdict rendered useless a trial of the other conspiracy cases, but its effect was such as to prevent a renomination this year of either of the State officers censured by the jury.

The question whether the warrants, which had been issued to pay the excessive bills, were valid obligations of the State could not be decided at this trial, nor, indeed, until the holders of such warrants should present them for payment. The State Treasurer was instructed by the Attorney-General that certain warrants in favor of the contractors for printing, furniture, and stationery, were probably invalid and should not be paid, and in his monthly calls for warrants the Treasurer expressly refused to redeem such (the total amount so refused being about \$136,000); but no action was taken by the holders to enforce payment until late in the year, when a firm of New York brokers, holding a warrant for \$5,000 issued to Collier & Cleveland, petitioned the district court for a mandamus to compel the Treasurer to pay the amount due thereon. A decision in this case had not been reached at the end of the year.

During 1890 charges appeared in the public prints to the effect that State Treasurer Brisbane and his predecessors had converted to their own use all interest accruing on the public funds deposited in local banks. To ascertain the truth of these charges, and to recover any sums so converted, the Attorney-General, in January, 1890, began suits against each of the persons implicated. In February the Grand Jury of Arapahoe County took up the matter and framed indictments against Treasurer Brisbane and ex-Treasurer Breene, his immediate predecessor.

Criminal proceedings against earlier treasurers were barred by lapse of time. These indictments were framed under that section of the revenue law which makes it a misdemeanor, punishable by a fine not exceeding \$10,000 for each offense, for any State Treasurer to make a profit on the public funds intrusted to his keeping. The case against Mr. Breene was carried to the State Supreme Court on a writ of *habeas corpus*, and, by a decision rendered in May, the court found that the section of the law under which the indictment was drawn was unconstitutional and void, because the title of the act of which it was a part gave no indication that such a section would be found therein. The State Constitution provides that "no bill except general appropriation bills shall be passed containing more than one subject, which shall be clearly expressed in its title; but if any subject shall be embraced in any act which shall not be expressed in the title, such act shall be void only as to so much thereof as shall not be so expressed." This disposition of the criminal proceedings did not affect the civil suits against the same defendants, but no progress had been made in these before the end of the year.

Political.—Early in August a call was issued inviting delegates of the Farmers' Alliance, the Union Labor party, and other organizations in the State, to meet in convention at Denver late in the month for the purpose of agreeing upon an independent fusion ticket for State officers. The convention met and formed a ticket, which underwent some changes before election, but in its final form contained the following names: For Congressman, J. D. Burr; for Governor, J. G. Coy; for Lieutenant-Governor, J. H. Brammeier; for Secretary of State, E. S. Moore; for Treasurer, J. N. Carlile, the Democratic nominee; for Auditor, W. S. Starr; for Attorney-General, W. T. Hughes; for Superintendent of Public Instruction, J. M. Long; for Regents of the State University, L. H. Smith and S. G. Duley.

On Sept. 15 the Prohibitionists met at Pueblo and nominated the following ticket: For Congressman, G. Richardson; for Governor, J. A. Ellett; for Lieutenant-Governor, Eugene Ford; for Secretary of State, P. A. Rice; for Treasurer, G. S. Emerson; for Auditor, R. W. Anderson; for Attorney-General, John Hipp; for Superintendent of Public Instruction, J. A. Ferguson. The usual anti-license resolutions were adopted.

The Republican Convention was held at Denver on Sept. 18. John L. Routt, the first Governor of the State, was nominated again for that office. For Lieutenant-Governor the convention selected William W. Story; for Secretary of State, Edwin J. Eaton; for Treasurer, John H. Fesler; for Auditor, John M. Henderson; for Congressman, Hosea Townsend; for Regents of the State University, O. J. Pfeiffer and W. H. Cochran. Attorney-General Jones and Superintendent of Public Instruction Dick were renominated. The resolutions included the following:

That the Republican party of this State demands of the Eighth General Assembly of Colorado the passage of such a law as shall reform the present fee system and establish fixed salaries that shall be reasonable for the county and other officers.

That we demand legislation providing for the cov

ering into the State treasury all interest accruing upon State funds and fixing a salary for the State Treasurer commensurate with the responsibilities of his office.

That the interests of the people of this State require of the next Legislature the passage of a wise and judicious railroad law; that we believe the public welfare will be best promoted by the creation of a railroad commission, composed of three men thoroughly acquainted with the commercial and economic condition of the State, and we demand that whatever railroad law is passed shall invest said commission with the power to revise the rates of the carriage of either passengers or freight.

That we demand a thorough revision of the irrigation law; that we deprecate the practice in vogue of ditch companies selling and receiving pay in advance for water which they can not possibly deliver.

That the Legislature is requested at the coming session of the General Assembly to enact a law establishing a State Board of Charities and Corrections.

The Democratic State Convention met at Denver on Sept. 25 and nominated Caldwell Yeaman for Governor, Platt Rogers for Lieutenant-Governor, William F. Forman for Secretary of State, James N. Carlile for State Treasurer, William T. Skelton for Auditor, Joseph H. Maupin for Attorney-General, Nathan B. Coy for Superintendent of Public Instruction, Henry O. Montague and Charles M. Ford for Regents of the State University, and Thomas J. O'Donnell for Congressman.

Local questions, especially those relating to the conduct of the State government for the past two years, took precedence in the canvass over national issues. This was largely due to the course of the Denver "Republican," an influential Republican journal, which early in 1889 began to assail the State government. It first attacked the General Assembly for passing appropriations that were known to exceed largely the revenue available for their payment. It then called public attention to the action of the Secretary of State and the Auditor in approving exorbitant bills for State printing, etc.; and its charges of corruption led to the indictment and trial above considered, in which they were condemned for negligence, though the charge of conspiracy failed. The State Treasurer and his predecessors were charged by the same journal with converting to their own use the interest on the public funds. Finally, the "Republican" held up to public censure the State Board of Land Commissioners for its action in the Argo land sale, so-called. This was a sale of 320 acres belonging to the State school fund, in or near the city of Denver. Although advertised according to the letter of the law, the sale was so little known that but few bidders were present at the auction on Feb. 14, and an average price of only \$303 an acre was obtained for land worth at least twice as much. The board, consisting of the Governor, Secretary of State, Attorney-General, and Superintendent of Public Instruction, was vigorously assailed by the "Republican" for sacrificing the public interests in a manner that was at least suspicious. In view of all these events, the "Republican" asserted that the State was being plundered, or its affairs grossly mismanaged, by its highest officials, and demanded that every member of the State government should be retired to private life. Several of the officials so attacked did not deem it

prudent to seek a renomination, and the Republican State Convention decided to place only two of them again in the field, Attorney-General Jones and Superintendent of Public Instruction Dick. The "Republican" thereupon advised its followers to defeat these two at the polls, and refused to give the Republican candidate for Treasurer any substantial support, on the ground that he was allied with the faction that controlled the existing State government. Each of the candidates for Treasurer deemed it advisable to enter into a strict pledge, binding himself to cover into the State treasury all interest on the public funds. The result of the election in November seemed to indicate an approval by the voters of the course of the "Republican," every candidate on the Republican ticket whom it opposed being defeated. The plurality for Gov. Routt and other successful members of his ticket was about 8,000, while Fesler for Treasurer was about 3,500 votes behind Carlile, the Democratic candidate; Jones for Attorney-General was defeated by Maupin by a few hundred votes, and Dick for Superintendent of Public Instruction was defeated by Coy by about 1,800 votes. The next General Assembly, whose members were chosen at this time, will be Republican by a reduced majority.

Two amendments to the State Constitution, authorizing the General Assembly to increase the number and salary of judges within certain limits, were defeated.

COMMERCE OF THE UNITED STATES.

The total value of the imports of merchandise into the United States during the year ending June 30, 1890, was \$789,222,228, compared with \$745,131,652 in 1888-'89, which was higher than in any previous year. The total exports of merchandise amounted to \$857,824,834 in 1889-'90, against \$742,401,375 in the preceding year. The import trade was the greatest in the history of the country, and the exports were only exceeded by those of 1881, which were nearly \$45,000,000 more in value. The total volume of commerce was \$1,647,047,062, or about \$159,600,000 more than the previous year, which was the highest hitherto recorded. Imports were stimulated by the expectation of the tariff being raised by congressional legislation. From 1876 till 1887 the exports of the United States always exceeded the imports every year, the average excess being \$134,388,312. In 1887-'88 and the following year the imports were in excess, while in 1890, notwithstanding the abnormal import movement, the old position of exports is restored. Whereas in 1888-'89 there was a balance against the United States in the merchandise movement of \$2,730,277 at the end of the year, in 1889-'90 there was an excess of exports over imports amounting to \$68,602,606 at the close, notwithstanding the unexampled amount of the imports, exceeding those of the previous year by \$44,090,576. During July and August, 1889, there was, as usual, an excess of imports, which amounted to \$24,871,856. The balance shifted earlier than usual, being \$15,517,670 in favor of the United States at the end of September, and to this were added \$34,719,042 excess of exports in October, \$37,002,926 in November, \$11,988,706 in December, \$7,218,345 in January, and \$5,455,415 in March. In April there was an excess of

\$8,374,647 in imports, in May \$12,683,572, and in June \$22,241,279, a higher figure than is shown in any previous month for years. Including gold and silver, the total imports in 1889 were \$774,094,735; in 1890 they were \$823,198,554; the total exports in 1889 were \$839,042,908; in 1890 they were \$909,973,254.

Imports.—The values of the principal articles and classes of articles exempt from duty imported into the United States during the twelve months ending June 30, 1890, compared with the values for the preceding year, are shown in the following table:

ARTICLES FREE OF DUTY.	1889.	1890.
Animals.....	\$9,287,388	\$8,496,655
Articles, produce of U. S., returned	\$567,510	4,233,153
Art works.....	888,177	899,588
Asphaltum.....	89,211	190,255
Bark, hemlock.....	185,782	164,276
Bolting-cloths.....	29,980	321,125
Books, maps, engravings, etc.....	1,161,251	1,115,353
Aluminate.....	488,708	858,882
Argal, or crude tar.....	2,490,871	2,798,888
Cinchona bark.....	867,966	292,775
Cochineal.....	74,285	42,435
Logwood, etc.....	1,665,452	1,735,167
Gums.....	5,276,467	5,697,280
Indigo.....	2,684,105	1,827,987
Chloride of lime.....	1,659,473	1,885,080
Licorice root.....	874,439	794,303
Mineral waters.....	351,114	481,579
Peasch, muriate of.....	1,057,344	924,965
Quina, suits of.....	940,325	902,000
Soda, nitrate of.....	2,275,021	2,708,705
Sulphur.....	2,025,644	2,136,529
Vanilla beans.....	699,908	559,867
All other chemica, drugs, and dyes	3,754,327	4,238,715
Cocoa.....	2,142,061	2,312,781
Coffee.....	74,734,882	78,267,432
Colr yarn.....	124,256	92,921
Cork-wood and bark.....	9,2047	1,213,876
Cotton, raw.....	1,184,505	1,392,728
Diamonds, rough.....	457,506	132,538
Eggs.....	2,418,976	2,074,912
Farinaceous substances.....	441,998	1,108,726
Fertilizers.....	1,613,602	1,213,909
Fibers.....	488,212	697,680
Fish.....	1,573,497	1,579,458
Bananas.....	3,571,924	4,658,779
Cocoa-nuts.....	782,706	822,810
Other fruits.....	1,597,632	1,739,191
Furs, undressed.....	2,888,167	2,150,990
Hair.....	2,491,718	2,771,484
Goat skins.....	7,668,472	9,106,082
Other skins.....	17,459,278	12,776,094
Personal effects of immigrants and citizens.....	2,732,972	2,734,809
India-rubber and gutta-percha.....	12,887,131	14,584,512
Ivory.....	691,592	848,100
Ivory, vegetable.....	96,574	61,482
Oils, fixed.....	713,364	923,223
Oils, volatile.....	1,056,524	964,991
Ores, gold-bearing.....	87,287	85,579
Ores, silver-bearing.....	6,951,719	7,754,672
Paper stock.....	5,970,017	5,261,448
Plaster of Paris.....	184,472	189,857
Platinum.....	765,391	707,343
Plumbago.....	248,487	573,561
Seeds.....	658,792	559,188
Silk, unmanufactured.....	19,338,229	24,331,867
Spices.....	2,284,198	2,973,994
Ten.....	12,654,649	12,917,493
Tin.....	7,014,415	6,898,909
Wood.....	4,459,624	4,421,024
Articles from Hawaiian Islands.....	12,588,393	12,058,567
All other free articles.....	5,479,445	6,718,389
Total free of duty.....	\$266,487,978	\$265,588,499

The imports of animals in the above list show an increase of \$123,975 when compared with the average imports for the preceding five years; products of the United States returned show a decrease of \$3,549,669; the value of books, maps, etc., is \$175,878 more than the average; chemi-

cals, drugs, and dyes, \$1,345,059 more; cocoa, \$474,854 more; coffee, \$22,072,158 more; raw cotton, \$572,028 more; eggs, \$193,483 less; fertilizers, \$397,169 less; fish free of duty, \$153,281 less; fruits and nuts free of duty, \$2,025,724 more; undressed furs and pelts, \$29,192 more; hair, \$723,477 more; hides and skins, \$2,332,303 less; personal effects of travelers and immigrants, \$121,565 more; crude caoutchouc and gutta-percha, \$2,215,587 more; oils not dutiable, \$98,932 less; silver ore, \$4,236,741 more; crude paper stock, \$128,853 less; raw silk, \$6,309,795 more; unground spices, \$7,748 less; tea, \$2,253,526 less; tin, \$327,316 more; wood, unmanufactured, \$406,696 more; imports from the Hawaiian Islands under the reciprocity treaty, \$1,816,709 more; all other free articles, \$3,595,560 more. The total value of the articles on the free list, \$265,588,499, is \$37,557,950 more than the average from 1885 to 1889 inclusive, the growth having been steady for each succeeding year.

The cattle imported for breeding purposes in 1890 numbered 3,935 head, against 4,404 head in 1889; the horses numbered 10,865, against 9,930; sheep, 16,303, against 5,926. The quantity of cocoa imported was 18,226,177 pounds, against 16,743,964 pounds; of coffee 499,159,120, against 578,397,454 pounds; of tea 83,886,829, against 79,575,984 pounds; of brown sugar from the Sandwich Islands 224,457,011, against 243,324,683 pounds; of unground pepper 13,759,217, against 11,358,626 pounds; of fresh fish other than salmon 41,727,190, against 46,348,854 pounds; of fresh salmon 853,963, against 1,020,507 pounds; of eggs 15,062,796 dozen, against 15,918,809 dozen; of fixed or expressed oils 20,323,677, against 16,105,342 pounds; of volatile or essential oils 1,437,216, against 2,065,316 pounds; of rags for paper stock 149,101,331, against 142,738,858 pounds; of raw silk 5,043,360, against 5,329,646 pounds; of tin in bars, blocks, or pigs, or granulated 34,903,009, against 33,877,287 pounds; of crude rubber and gutta-percha 33,842,374, against 32,339,503 pounds; of phosphates for fertilizing 30,249, against 34,603 tons; of guano 8,432, against 14,274 tons; of soda nitrate 204,052,587, against 151,148,674 pounds; of brimstone 141,921, against 130,191 tons; of indigo 2,823,962, against 3,550,765 pounds; of logwood 65,870, against 69,354 tons; of crude asphalt or bitumen 156,601,203, against 86,348,171 pounds; of argol or crude tartar 24,908,054, against 21,429,434 pounds; of distilled spirits of domestic manufacture returned from abroad 1,021,096, against 1,615,316 proof gallons; of raw cotton 8,606,049, against 7,973,039 pounds.

The following table gives the values of the principal articles and classes of articles subject to duty imported in the twelve months of the fiscal year 1889-90, compared with the values for the year preceding:

DUTIABLE ARTICLES.	1889.	1890.
Animals.....	\$3,936,505	\$3,270,577
Art works.....	1,908,597	1,968,597
Books, maps, engravings.....	2,913,942	2,787,717
Brass, and its manufactures.....	188,861	166,668
Breadstuffs.....	8,029,724	6,684,272
Bristles.....	1,284,724	1,286,219
Brushes.....	654,651	767,128
Buttons.....	3,292,406	3,507,124
Cement.....	1,459,885	2,172,399

DUTIABLE ARTICLES.	1889.	1890.
Coal-tar colors.....	\$1,686,456	\$1,787,553
Glycerin.....	913,354	925,995
Logwood extract, etc.....	140,759	218,105
Opium, crude.....	809,808	1,188,712
Opium, prepared for smoking.....	644,204	229,586
Salt-peter, or nitrate of potash.....	209,425	806,499
Soda, salts of.....	4,296,288	5,115,709
Sumac.....	206,648	302,875
Other chemicals and drugs.....	4,093,185	4,673,221
Earthen.....	322,960	332,051
Clocks, and parts of.....	430,322	439,406
Watches, and parts of.....	1,662,118	1,674,873
Coal, bituminous.....	8,929,245	8,087,760
Copper ore.....	401,167	398,808
Copper, and manufactures of.....	81,410	132,221
Corsets.....	869,957	968,129
Cotton cloths.....	8,299,294	8,503,241
Clothing, cotton.....	389,612	386,655
Cotton embroideries, laces, etc.....	9,291,193	11,447,670
Cotton knit goods.....	6,489,235	7,149,080
Cotton thread.....	867,708	904,185
Other manufactures of cotton.....	5,651,065	6,577,224
Earthen, stone, and china ware.....	6,478,299	7,090,985
Beads and bead ornaments.....	1,250,242	916,713
Dolls and toys.....	1,865,389	2,070,659
Fans.....	462,727	477,188
Feathers.....	848,108	1,428,800
Feathers and flowers, artificial.....	979,561	1,210,992
Perfumeries and cosmetics.....	848,964	428,968
Pipes and smokers' articles.....	290,172	278,973
Other fancy articles.....	610,164	819,596
Flax.....	8,235,860	8,516,533
Flax, hemp, and jute, raw.....	20,468,470	19,844,087
Flax, hemp, and jute, manufactures of.....	25,705,558	28,421,279
Fruits and nuts.....	12,795,055	18,878,501
Furs, dressed, and manufactures of.....	5,328,056	5,888,608
Glass and glassware.....	7,718,921	7,352,723
Hair.....	154,428	168,666
Hats, bonnets, and materials.....	4,197,577	3,895,326
Hay.....	1,082,885	1,148,445
Hops.....	1,158,472	1,053,616
India-rubber and gutta-percha, manufactures of.....	886,227	867,647
Iron ore.....	2,861,462	8,652,687
Iron and steel manufactures.....	42,377,738	41,678,241
Jewelry and silver and gold manufactures.....	1,228,893	1,361,104
Precious stones and imitations of.....	10,771,633	12,180,482
Lead, and manufactures of.....	549,257	652,754
Leather.....	6,019,523	6,229,836
Leather gloves and other manufactures.....	5,276,499	6,208,244
Malt.....	111,281	161,666
Malt liquors.....	1,361,990	1,427,608
Marble and stone.....	1,006,577	1,297,687
Metals, metal compositions, and manufactures of.....	3,827,020	4,285,082
Mineral substances.....	117,665	108,309
Musical instruments.....	1,721,428	1,704,129
Oils.....	1,876,614	1,581,739
Paints and colors.....	1,294,811	1,343,457
Paper, and manufactures of.....	2,542,388	2,516,860
Provisions and dairy products.....	1,774,891	2,011,814
Rice.....	8,005,271	2,042,120
Salt.....	943,131	950,925
Seeds.....	4,488,431	8,580,631
Silk, manufactures of.....	35,122,760	38,686,374
Soap.....	453,166	558,440
Spices, ground.....	178,666	249,077
Brandy.....	1,076,265	1,218,139
Other spirits.....	851,822	996,016
Sponges.....	818,885	415,631
Sugar, molasses, and candy.....	81,249,845	89,787,284
Tobacco, leaf.....	10,868,226	17,665,663
Tobacco, manufactured.....	8,742,764	4,104,791
Vegetables.....	2,269,799	4,455,354
Wines, sparkling.....	4,251,413	4,752,572
Wines, still, in casks.....	2,126,548	2,450,179
Wines, still, in bottles.....	1,335,811	1,657,221
Wood, and manufactures of.....	11,254,975	12,999,831
Clothing wools.....	5,971,091	8,894,789
Combining wools.....	1,586,294	1,908,279
Carpet and other wools.....	10,417,190	9,463,353
Woolen manufactures.....	52,564,942	56,582,412
Zinc, spelter, and manufactures of.....	166,097	140,700
All other dutiable articles.....	6,255,074	5,290,322
Total dutiable articles.....	\$488,614,574	\$523,633,729

A comparison with the average imports for the years 1885-'89 shows a decrease of \$791,128 in the value of dutiable live animals in 1890; the value of books, maps, and engravings was \$202,350 more than the average; the imports of barley were \$1,504,772 less than the average value, and those of other breadstuffs \$152,010 less; bristles, \$148,565 more; buttons, \$272,472 less; cement, \$951,706 more; chemicals, drugs, and dyes subject to duty, \$1,816,302 more; clocks and watches and parts of them, \$332,956 more; bituminous coal, \$160,548 more; cotton manufactures, \$1,603,935 more; earthen, stone, and china ware, \$1,353,085 more; fancy articles, \$1,090,603 more; fish, preserved, dried, etc., \$978,615 more; flax, hemp, jute, and similar fibrous materials, \$5,314,215 more; manufactures of flax, hemp, jute, etc., \$5,854,026 more; fruits and nuts subject to duty, \$55,444 less; furs, manufactured or dressed, \$817,647 more; glass and glassware, \$256,157 more; hats, bonnets, and hoods, and materials for making them, \$1,551,058 less; hay, \$62,210 more; hops, \$237,650 less; iron ore, \$874,978 more; tin plates and taggers' tin, \$2,634,582 more; all other manufactures of iron and steel, \$3,304,918 less; jewelry and manufactures of gold and silver and precious stones, \$3,357,377 more; leather and manufactures thereof, \$1,088,956 more; malt liquors, \$165,691 more; musical instruments, \$99,784 more; oils subject to duty, \$380,677 more; paints and colors, \$108,815 more; paper and manufactures thereof, \$736,236 more; provisions comprising meats and dairy products, \$93,533 more; rice, \$162,212 less; salt, \$360,536 less; seeds, other than medicinal, \$944,143 more; manufactures of silk, \$7,636,935 more; sugar, molasses, sugar candy, and confectionery, \$15,534,582 more; leaf tobacco, \$8,690,461 more; manufactured tobacco, \$640,600 more; vegetables, \$1,179,401 more; wines, \$1,797,012 more; wood, subject to duty, and manufactures of wood, \$3,186,622; raw wool, \$81,640 more; woolen manufactures, \$12,105,426 more; all other dutiable articles, \$2,901,907 more. The total value of dutiable imports in 1890 was \$76,789,878 above the average annual amount for the period 1885-'89, which was \$446,843,851. The total imports, free and dutiable, rose in regular progression from \$577,527,329 in 1885 to \$635,436,136 in 1886, \$692,319,768 in 1887, \$723,057,114 in 1888, \$745,131,652 in 1889, and \$789,222,228 in 1890. The latter figure is \$114,347,828 higher than the average for the five years preceding the year under review.

The dutiable imports of living animals in 1890 include 26,760 head of cattle, against 57,551 in 1889; 38,241 horses, against 48,784; and 377,491 sheep, against 398,891. The imports of barley were 11,332,542 bushels, valued at \$5,629,849, against 11,368,414 bushels, of the value of \$7,723,838 in 1889. The imports of cotton piece goods decreased from 30,386,189 to 27,759,641 square yards, and of yarn from 1,744,852 to 1,706,188 pounds. Dried and smoked cod and herring show a decrease in both quantities and values. The imports of flax increased from 7,896 to 8,048 tons; of jute from 88,655 to 90,390; and of sisal grass and other vegetable fibers from 38,542 to 30,858, except hemp and its substitutes, which declined in quantity from 55,835

to 36,591 tons. The imports of yarns of these various substances were 16,068,936, against 16,285,809 pounds. Among the fruits of the free list there was an increase in the imports of prunes and plums from 46,154,825 to 58,093,410 pounds; in raisins from 35,091,139 to 36,914,330 pounds; and in almonds from 5,545,400 to 5,715,858 pounds. Foreign hops were needed for the brewing industry in larger quantities in 1890, the imports increasing from 4,176,158 to 6,539,516 pounds. The imports of iron ore increased from 652,032 to 1,157,395 tons, and scrap iron showed an increase. In the coarser iron and steel fabrics there was a large falling off; in the case of pig iron from 176,727 to 146,772 tons; in rolled and hammered bars, from 69,280,491 to 64,031,938 pounds; in steel rails, from 24,257 tons to almost nothing; in cotton ties and baling hoops, from 71,654,638 to 44,621,533 pounds; in steel hoops, plates, etc., from 46,736,057 to 18,702,580 pounds; in ingots, blooms, bars, and other forms of steel for manufacturing purposes, from 215,631,109 to 81,395,033 pounds; in rivet, screw, nail, and fence rods of iron and steel, from 180,209,180 to 139,658,120 pounds. Of wire and wire rope and sheet iron there was a larger importation; in taggers' tin the quantity fell away to 679,838,625 from 735,779,998 pounds. The larger importations of machinery, firearms, and cutlery and an advance in the price of iron made the total value of iron and steel imports nearly as great as in the preceding year. Of malt liquors there was a slightly increased importation, corresponding to the increase in the total value. Under the head of provisions there was an increase in meat preparations and extracts and condensed milk, but not in other articles, except cheese, which advanced from 8,207,026 to 9,263,573 pounds. Rice fell away from 121,585,663 to 57,631,397 pounds, not including rice admitted free from the Sandwich Islands, the quantity of which was 10,730,600 pounds, showing a slight augmentation. Salt, though showing an increase in the value, declined in quantity from 582,377,147 to 505,029,864 pounds. Linseed decreased from 3,259,460 to 2,391,175 bushels. Among the manufactures of silk the increased imports of dress goods, finished garments, laces, and ribbons more than counterbalanced a considerable decline in other articles. The quantity of brandy imported was 461,380 gallons, against 400,089 in 1889; of other distilled liquors 1,138,373, against 1,127,458 gallons. The growth in the imports of beet sugar below No. 13, Dutch standard in color, was from 240,473,321 to 601,119,476 pounds, while cane sugar showed a decline in quantity from 2,275,159,339 to 2,108,218,158 pounds. Of molasses there were 31,415,900 gallons imported, compared with 26,976,411. The imports of leaf tobacco exhibit a considerable increment, from 20,106,881 to 28,728,159 pounds; those of cigars were about the same, 1,250,218, as against 1,232,619 pounds. The shortage in the crop caused a heavy importation of potatoes, 3,415,578 bushels, against 883,380 in the former year. Beans and peas show an increase from 765,483 to 1,251,144 bushels, and in other garden products and in pickles and preserved vegetables there was a much larger trade. The imports of champagne wines were 354,350 dozen bottles, against 315,870; of

still wine in bottles, 329,549 dozen, against 260,026; of wine in casks, 3,485,815 gallons, against 3,078,554. The increase under the head of wood manufactures was due to an importation of 97,390,849 pounds of wood pulp, valued at \$1,814,356, an article that was not represented in the report for 1889. The quantity of clothing wools was 16,649,480 pounds, against 29,224,522; combing wools, 7,658,806 pounds, against 6,871,666; carpet and similar grades of wool, 81,122,995 pounds, against 90,391,541 pounds. Among woollen manufactures there was a small increment in carpets and carpeting, from 601,967 to 605,607 square yards; the imports of cloths nearly doubled, being 16,847,538 pounds, as compared with 8,852,542; and in dress goods there was a growth from 91,284,188 to 116,991,368 yards. Knit goods and shawls likewise showed an increase, while other woollen articles declined one half. The shoddy and waste imports diminished from 8,662,209 to 4,980,327 pounds; yarns, from 3,616,326 to 3,473,219 pounds; the value of ready-made clothing from \$1,974,977 to \$1,840,669. The zinc and spelter imports were 2,215,182, against 2,991,991 pounds.

Of the total imports, free and dutiable, articles of food and live animals make 31·92 per cent., their value being \$251,947,351; articles in a crude condition entering into processes of domestic industry, of the value of \$180,833,230, make 23·92 per cent. of the total; articles wholly or partly manufactured, for use as materials in the manufactures and mechanic arts, amounted to \$84,737,715, or 10·74 per cent. of the total; manufactured articles, ready for consumption, give the sum of \$157,945,053, or 20·01 per cent. of the total imports; and luxuries and articles of voluntary use had a value of \$113,758,879, being 14·41 per cent. of the total. In the dutiable list articles of food constituted 24·60 per cent., raw materials 11·23 per cent., manufactured or partly manufactured materials 14·23 per cent., manufactured articles of general use 28·68 per cent., and articles of voluntary use 21·26 per cent. of the total value. Of the total imports on the free list the proportion of articles of food was 46·36 per cent.; of raw materials, 45·96 per cent.; of partly manufactured articles, 3·85 per cent.; of manufactured articles ready for consumption, 2·93 per cent.; and of articles of luxury and voluntary use, 0·90 per cent. Of the total value of merchandise imports in 1890, which was \$789,222,228, there were \$746,923,375 imported direct and \$42,298,853 imported through the exterior ports without appraisement. The value of goods entered for immediate consumption was \$618,520,548; of the imports remaining in warehouse, \$170,701,680. There were brought in American steam vessels imports of the total value of \$70,243,795; in American sailing vessels, \$54,683,182; in foreign steam vessels, \$571,390,842; in foreign sailing vessels, \$52,285,292; in cars and other land vehicles, \$40,619,117. For 1888-'89 the division of the trade according to the means of carriage was as follows: American steamers, \$64,453,659; American sailing vessels, \$56,329,251; foreign steamers, \$525,161,220; foreign sailing vessels, \$60,959,661; cars, etc., \$38,227,861.

Exports.—The values of the articles and classes of articles of domestic production exported

during the year ending June 30, 1890, compared with the values for the preceding year, are given in the following table:

ARTICLES.	1889.	1890.
Agricultural implements.....	\$8,623,769	\$8,859,184
Animals.....	18,374,403	83,683,128
Art work.....	694,418	225,093
Bark, for tanning.....	270,880	268,754
Billiard tables.....	84,888	42,466
Blacking.....	182,188	238,391
Bones, hoofs, and horns.....	242,429	271,583
Books, maps, and engravings.....	1,712,979	1,846,094
Brass, and manufactures of.....	821,187	467,318
Broadstuffs.....	123,876,661	154,925,717
Bricks.....	79,915	99,299
Broom corn.....	152,542	111,147
Brooms and brushes.....	155,551	151,129
Candles.....	138,067	148,067
Carriages and horse cars.....	1,664,284	2,056,980
Cars, railroad.....	1,426,237	2,689,695
Casings for sausages.....	510,114	697,772
Chemicals, drugs, medicines, and dyes.....	5,542,758	6,224,564
Cheeks and watches, and parts of.....	1,355,519	1,635,196
Coal, anthracite.....	4,217,008	8,399,649
Coal, bituminous.....	5,416,439	2,473,478
Coffee and cocoa, ground, and chocolate.....	94,623	93,735
Copper ore.....	7,518,258	6,053,236
Copper, manufactured.....	2,348,954	2,349,892
Cotton, Sea Island.....	1,391,495	2,280,717
Cotton, other, raw.....	236,838,775	250,966,792
Cotton cloths, colored.....	2,883,978	2,886,435
Cotton cloths, uncolored.....	5,577,401	5,490,408
Cotton clothing.....	801,485	240,796
Other cotton manufactures.....	1,448,067	1,391,643
Earthen and china ware.....	167,739	175,477
Eggs.....	75,936	58,675
Fancy articles.....	1,142,708	1,045,364
Fertilizers.....	988,569	1,618,681
Fish.....	5,969,785	6,040,826
Flax, hemp, and jute manufactures.....	1,644,485	2,094,807
Fruits, ripe, dried, preserved, etc.....	5,071,584	4,959,547
Furs and fur skins.....	6,034,453	4,661,994
Glass and glassware.....	894,200	882,677
Glycerine.....	748,509	855,176
Glue.....	82,258	88,484
Grease.....	527,576	1,506,519
Gunpowder.....	183,118	95,348
Other explosives.....	750,519	773,880
Hair, and manufactures of.....	888,731	844,558
Hay.....	888,777	667,585
Hides and skins.....	909,794	1,828,635
Honey.....	98,888	118,101
Hops.....	2,923,592	1,110,571
Ice.....	86,492	111,762
India rubber and gutta-percha, manufactures of.....	631,748	1,090,367
Ink, printers', and other.....	129,098	144,057
Instruments.....	1,035,888	1,429,785
Iron and steel, and manufactures of.....	21,156,077	25,542,308
Jewelry.....	916,264	662,759
Lamps and lighting apparatus.....	509,002	529,021
Lead, and manufactures of.....	199,892	184,317
Leather and its manufactures.....	10,747,710	12,438,847
Lime and cement.....	157,094	184,904
Malt liquors.....	625,396	654,400
Marble and stone, and manufactures of.....	657,052	961,816
Matches.....	61,171	62,284
Musical instruments.....	998,068	1,105,134
Naval stores.....	2,188,326	2,858,515
Oakum.....	40,253	82,021
Oil cake and oil meal.....	6,927,912	7,939,926
Animal oils.....	1,117,856	1,654,649
Mineral oils, crude.....	5,088,192	6,744,292
Mineral oils, refined.....	44,830,545	44,638,864
Vegetable oils.....	1,585,783	6,772,441
Ore, gold and silver.....	80,961	1,973,976
Paints and colors.....	507,749	578,108
Paper, and manufactures of.....	1,191,035	1,226,666
Paraffine and paraffine wax.....	2,029,692	2,408,709
Plated ware.....	587,163	440,714
Provisions.....	104,122,444	186,954,596
Quicksilver.....	294,947	188,066
Rags.....	29,434	18,139
Rice.....	24,124	29,728
Salt.....	34,266	29,078
Seeds.....	3,874,594	2,637,888
Silk, manufactures of.....	72,999	54,449

ARTICLES.	1889.	1890.
Soap.....	\$899,828	\$1,109,017
Spermaceti.....	111,846	116,757
Spices, ground or prepared.....	30,711	25,457
Spirits.....	2,218,101	1,638,929
Spirits of turpentine.....	8,777,525	4,590,881
Starch.....	272,630	87,115
Stationery, other than paper.....	474,389	490,778
Stereotype and electrotype plates.....	24,688	80,662
Straw and palm-leaf manufactures.....	61,925	63,868
Sugar and molasses.....	2,117,838	3,029,413
Tin, manufactures of.....	236,733	284,896
Tobacco, unmanufactured.....	18,901,068	21,479,556
Tobacco, manufactured.....	8,708,609	3,876,045
Trunks and traveling bags.....	184,624	209,350
Umbrellas and sunshades.....	4,578	1,716
Varnish.....	292,727	216,488
Vegetables.....	1,449,952	1,257,805
Vessels sold to foreigners.....	87,372	104,798
Vinegar.....	10,464	10,280
Wax, bees'.....	23,918	19,727
Whalebone.....	762,464	705,500
Wine.....	260,488	270,980
Wood, and manufactures of.....	26,901,959	23,235,745
Wool, raw.....	23,065	23,548
Woolen manufactures.....	848,949	487,479
Zinc ore or oxide.....	25,351	192,990
Zinc, manufactures of.....	28,684	156,150
All other unmanufactured articles.....	47,339	482,765
All other manufactured articles.....	916,758	1,268,192
Total domestic exports.....	\$730,282,609	\$845,293,828

The agricultural implements that made the value under that head greater in 1890 than in 1889 were mowers and reapers and plows. The number of live cattle exported in 1890 was 394,836, valued at \$31,261,131, against 205,786, of the value of \$16,616,917, in 1889. The number of hogs increased from 45,128 to 91,148, the value from \$356,764 to \$909,042. The number of sheep declined from 128,852 to 67,521, the value from \$306,181 to \$243,077. The number of horses exported was 3,501, fewer than in 1889, but of higher value; the number of mules was 3,544, an increase of 20 per cent. Among cereals the exports of barley were almost the same in both years, though the value declined more than 12 per cent.; bread and biscuit show a small increase; corn increased from 69,592,929 to 101,973,717 bushels, the value being \$42,658,015 in 1890, against \$32,982,277 in 1889; in corn meal there was an increase in value from \$870,485 to \$896,879; the export of oats, only 624,226 bushels in 1889, valued at \$245,562, rose to 13,692,359 bushels, of the value of \$4,510,055, and of corn meal was exported \$784,879 worth, against \$273,173; the rye export increased from 87,252 to 2,257,377 bushels, in value from \$158,917 to \$1,279,814; in wheat the increase in quantity was from 46,414,129 to 54,387,767 bushels, in value from \$41,652,701 to \$45,275,906; in wheat flour it was from 9,374,803 to 12,231,711 barrels, in value from \$45,296,485 to \$57,036,168. Under the head of chemicals, drugs, dyes, and medicines there was a small falling off in the exports of patent and proprietary medicines and the export of ginseng diminished 271,228 to 223,113 pounds; dye stuffs and potash also showed a falling off, and yet the growing trade in numerous other substances swelled the total to a considerably larger figure than that of the year before. The value of the clocks exported is \$1,344,047, of watches \$351,089, both showing an increase. Of anthracite coal there was exported 793,140 tons, over 15 per cent. less, of bituminous coal 1,138,681 tons, 45 per cent. more than in the

previous year. The export of copper ore declined from 38,062 to 36,840 tons, while that of ingots, bars, and old copper grew from 14,334,043 to 20,237,409 pounds. The exports of cotton increased from 4,872,060 bales, or 2,384,816,669 pounds, to 5,020,913 bales, weighing altogether 2,471,799,853 pounds. The total quantity was never exceeded, and only once was the value greater. That was in 1866, at the time of the cotton famine, when the value was \$30,000,000 greater, although the exports were only one quarter as great in quantity as in 1890. The export of Sea Island cotton, which is included in this total, was 9,220,819 pounds, against 6,419,569 pounds in 1889. The export of colored piece goods was 42,309,770 yards, against 40,856,329 in 1889; of white and gray cloths, 75,716,490 yards, against 77,596,862, making the total export almost exactly the same in each of the two years. The export of cured codfish increased from 15,625,928 to 17,030,019 pounds; of herring, from 2,404,433 to 3,663,024 pounds; of canned salmon from 28,393,140 to 28,781,661 pounds. In rope and cordage there was an increase from 7,533,185 to 10,006,691 pounds. The export of dried apples fell from 22,102,579 to 20,861,480 pounds, and that of green apples almost 50 per cent., or from 942,406 barrels, valued at \$2,249,375, to 453,506 barrels, valued at \$1,231,436. Of glucose or grape sugar there were exported 38,256,161 pounds, against 31,285,220 pounds in 1890; of glue, 728,696 pounds, against 534,203; of gunpowder, 733,983 pounds, against 908,547; of hops, 7,540,854 pounds, against 12,589,262; of rubber boots and shoes, 171,473 pairs, against 91,465 pairs. In the class of the iron and steel exports machinery advanced from \$7,166,748 to \$8,954,776; cutlery, from \$102,252 to \$102,851; locks, hinges, and other builders' hardware, from \$1,700,390 to \$1,985,794; cut nails, from \$290,757 to \$311,250; other nails and tacks, from \$157,389 to \$160,389; printing presses, from \$223,990 to \$317,336; steel rails, from \$235,377 to \$315,016; sewing machines, from \$2,247,875 to \$2,793,780; scales and balances, from \$301,486 to \$318,749; locomotive engines, from \$1,227,149 to \$1,280,606; stationary engines, from \$133,473 to \$305,478; boilers and parts of engines, from \$267,394 to \$570,915; wire, from \$594,616 to \$790,222; and various other manufactures of iron and steel showed together an increase from \$2,644,013 to \$3,194,825, almost the only articles that did not partake in the general improvement being firearms, the export of which diminished from \$820,933 to \$797,564, and saws and tools, which show a decline from \$1,980,878 to 1,865,603. The export of sole leather increased from 35,558,945 to 39,595,219 pounds, that of upper and other leather in proportion, and that of boots and shoes from 518,750 to 587,106 pair, but harness and saddlery and other leather articles show a diminution of trade. The export of rosin increased from 1,420,218 to 1,601,379 pounds. The export of oil cake and oil meal was 711,704,373 pounds in 1890, against 588,317,880 pounds in 1889. Lard oil was exported to the extent of 1,214,611 gallons, against 861,303, and fish oil to the extent of 1,844,041, against 483,208. Of crude petroleum the shipments aggregated 95,350,653, against 72,987,383; of naphtha, 12,937,433, against 14,100,054 gallons; of refined il-

luminating oil, 523,295,090, against 502,257,455 gallons; of lubricating and paraffine oil, 30,162,522, against 25,166,913 gallons. The export of cotton-seed oil suddenly expanded from 2,690,700 to 13,384,385 gallons. The increase in the paper exports was not in writing paper, which declined, but in paper hangings and in other kinds. The export of paraffine and paraffine wax was in quantity 48,552,551 pounds, as compared with 33,826,575 pounds in 1889. In the class called provisions, comprising meat and dairy products, the exports of canned beef increased from 51,025,254 pounds, valued at \$4,375,213, to 82,666,247 pounds, valued at \$6,787,193; fresh beef, from 137,895,391 pounds, of the value of \$11,481,861, to 173,237,596, valued at \$12,862,384; salted and pickled beef, from 55,006,399 to 97,508,419 pounds, or in value from \$3,043,324 to \$5,250,068; tallow, from 77,844,555 to 112,745,370 pounds, or in value from \$3,942,024 to \$5,242,158; bacon, from 357,377,399 pounds, valued at \$29,872,231, to 531,899,677 pounds, valued at \$39,149,635; hams, from 42,847,247 to 76,591,279 pounds, in value from \$4,733,415 to \$7,907,125; pickled pork, from 64,110,845 pounds, of the value of \$4,733,415, to 79,788,868 pounds, the low price of which brought the value down to \$4,735,488; lard, from 318,242,990 pounds, valued at \$27,329,173, to 471,083,598 pounds, valued at \$33,455,520; imitation butter, from 2,192,047 pounds, valued at \$250,605, to 2,535,926 pounds, valued at \$297,264; oleomargarine oil, from 28,102,534 pounds, valued at \$2,664,492, to 68,218,098 pounds, valued at \$6,476,258; butter, from 15,504,978 pounds, valued at \$2,568,765, to 29,748,042 pounds, valued at \$4,187,489; cheese, from 84,999,828 pounds, valued at \$7,889,671, to 95,376,053 pounds, valued at \$8,591,042. The export of quicksilver declined from 575,856 to 317,511 pounds. The clover-seed export was much less than in the previous year, 26,500,578 instead of 34,253,137 pounds; in timothy seed there was an increase from 10,200,673 to 11,051,053 pounds. The trade in the common grades of soap leaped up from 19,454,006 to 26,432,953 pounds. The shipments of whisky abroad were greatly reduced from the figures of 1889, bourbon falling from 1,292,329 to 507,939; rye, from 383,805 to 121,506; and other sorts, from 294,840 to 211,210 proof gallons; while rum rose from 445,589 to 555,749; and alcohol, from 276,726 to 307,726 gallons. Turpentine shows an augmentation from 9,681,759 to 11,248,920 gallons. The starch export also grew from 7,228,193 to 9,168,097 pounds. In the export of refined sugar there was a sudden bound from 14,167,216 to 27,018,002 pounds; in molasses the increase was from 5,347,960 to 6,031,038 gallons. The exports of leaf tobacco, with those of stems and trimmings, were 255,647,026 pounds, against 223,759,332. The demand for American cigarettes rose from 236,727 to 265,001 thousand, and other manufactured tobacco exhibits a slight increase, no greater than the improved supply would indicate. Beans, potatoes, and canned vegetables show a large decrease, the effect of the extensive failure of garden crops. The export trade in American wine expands very slowly, and is still almost too insignificant to notice, only about 410,000 gallons. The exports of manufactures

show an improvement in nearly all branches, and a noticeable one in household furniture, the value of which rose from \$2,628,673 to \$3,086,864. The exports of lumber in the form of boards and planks were much larger than in 1889, the figures being 612,814, against 571,075 thousand feet, even at lower prices, as shown by the values, given as \$9,974,888 and \$9,703,219 respectively. The same is true in a less degree of hard timber, the figures being, for sawed timber, 271,000 thousand feet, against 252,996, of the respective values of \$3,384,847 and \$3,132,886; for hewed timber, 8,732,761 cubic feet, of the value of \$1,381,761, against 6,301,065, of the value of \$1,122,223; and of logs and other timber, of the value of \$1,680,346, against \$1,637,346. The value of the export of barrel staves and heads rose from \$2,168,909 to \$2,476,857; doors, sashes, and blinds, from \$307,856 to \$320,919; wooden ware, from \$321,378 to \$360,515. The small sum set down under the head of woollen manufactures is mainly made up of the exports of wearing apparel, which rose from \$264,074 in 1889 to \$317,910 in 1890.

The exports of domestic merchandise when classified according to their sources of production and the nature of the articles show the following figures: Products of agriculture, value \$629,785,917 in 1890, or 74.51 per cent. of the total value of domestic produce exported, against \$532,141,489, or 72.87 per cent. of the total, in 1889; mining products, \$22,351,746, or 2.64 per cent. of the total, against \$19,947,519, or 2.73 per cent., in 1889; forest products, \$29,473,084, or 3.48 per cent. of the total, against \$26,997,127, or 3.70 per cent., in 1889; fishery products, \$7,496,044, or 0.89 per cent. of the total, against \$7,106,388, or 0.97 per cent., in 1889; miscellaneous crude products, \$5,055,740, or 0.60 per cent. of the total, against \$5,414,579, or 0.74 per cent., in 1889; total raw products and articles slightly enhanced in value by manufacturing processes, \$694,162,531, or 82.12 per cent. of the total domestic exports, against \$591,607,102, or 81.01 per cent., in 1889; manufactures, \$151,131,297, or 17.88 per cent. of the total, against \$138,675,507, or 18.99 per cent., in 1889.

The exports of foreign merchandise amounted in total value to \$4,783,807 of free and \$7,334,959 of dutiable goods in 1889; and in 1890 to \$4,542,363 of free and \$7,988,643 of dutiable articles, making the total of \$12,118,766 in 1889 and \$12,531,006 in 1890. This is \$756,707 less than the average for 1885-9.

Of the total exports of domestic merchandise in 1890, amounting to \$845,293,828, the proportion carried in American steam vessels was \$36,909,333; in American sailing vessels, \$38,472,679; in foreign steam vessels, \$644,577,783; in foreign sailing vessels, \$95,016,641; in cars and other land vehicles, \$30,317,392. The moderate growth of the trade with contiguous countries and the slow but constant contraction of the American carrying trade is shown by a comparison with the figures of the preceding year, when out of \$730,282,609 worth of exports of domestic produce \$26,225,185 were transported in land carriages, \$37,083,575 in American steamers, \$43,836,229 in American sailing ships, \$531,623,376 in foreign steam vessels, and \$91,514,244 in foreign sailing vessels.

The volume of the export trade from year to year varies greatly according to the condition of the harvests in Europe and America, affecting prices and the foreign demand for the American staples. Adverse tariff legislation and administrative regulations in European states have injured, but only to the extent of retarding in its development, the trade in provisions and some other classes of domestic products. The extraordinary total of 1890 was the result of a good year for most of the staple crops and of a large demand in foreign countries caused, not by unusual scarcity, but by a general expansion of commerce. The exports of domestic merchandise in 1885 were \$726,682,946 in total value; in 1886, \$665,964,529; in 1887, \$703,022,923; in 1888, \$683,862,104; in 1889, \$730,282,609. The average for these five years was \$701,963,022. The total for 1890 is more than 20 per cent. larger than this average. Taking the classes of exports separately there was a diminution in the values exported of \$8,571,932 in wheat and wheat flour, \$899,721 in manufactured copper, \$2,791,063 in cotton manufactures, \$327,070 in hops, \$807,242 in distilled spirits, \$6,471,014 in sugar and molasses, and \$1,714,378 in leaf tobacco. Notwithstanding these relapses in the growth of American commerce, some of which seem serious, the total export trade for the year in articles of domestic production was \$143,330,806 more than the average aggregate trade of the period of five years preceding 1890. The exports of agricultural implements were \$1,191,941 above the average; of cattle, \$10,014,676; of other animals, \$834,652; of books, maps, engravings, and other printed matter, \$346,569; of corn and corn meal, \$17,667,681; of other cereals besides corn and wheat, \$5,219,090; of cars, street cars, and carriages, \$2,499,859; of chemicals, drugs, and dyes, \$897,131; of clocks and watches, \$297,202; of coal, \$1,600,753; of copper ore, \$1,636,166; of raw cotton, \$36,156,354; of fish, \$1,397,885; of flax, hemp, and jute manufactures, \$664,094; of fruits, \$456,421; of furs and fur skins, \$243,271; of iron and steel manufactures, \$8,099,140; of leather and leather manufactures, \$2,599,373; of naval stores, \$606,382; of oil cake and oil meal, \$1,121,983; of animal oils, \$466,716; of crude petroleum, \$1,246,449; of kerosene, \$1,308,892; of vegetable oils, \$3,399,507; of paper manufactures, \$133,237; of paraffine and paraffine wax, \$471,665; of meat products, \$36,929,982; of dairy products, \$1,750,226; of seeds, \$354,835; of spirits of turpentine, \$1,321,024; of manufactured tobacco, \$560,561; of vegetables, \$74,669; of wood and manufactures of wood, \$5,925,206; of various other articles, \$8,419,629.

Of the exports of agricultural implements in 1890, amounting to \$3,859,184, the Argentine Republic took \$1,065,445; Great Britain, \$454,608; France, \$256,306; Australia, \$249,404; Germany, \$205,655; and other European countries, \$575,589. The cattle were nearly all consumed in Great Britain, and the hogs and sheep went mainly to British America and various other neighboring countries. The products of the printer's industry went largely to Spanish America, a considerable proportion to England and the Continent of Europe, and not a few books to Asia. Of the corn exports, Great Britain received

\$23,156,737; Germany, \$4,824,991; France, \$3,576,529; other European countries, \$6,284,803; British America, \$3,520,437; and Spanish America, the remainder of the total of \$42,658,015. Of the wheat exports, amounting to \$45,275,906, more than two thirds; or \$31,470,318 went to England, \$3,233,618 to France, \$6,037,134 to other countries of Europe, \$1,913,821 to British North America, \$47,585 to Central America, and \$2,573,430 to all other countries. Of the exports of wheat flour, reaching in 1890 the high figure of \$57,036,168, the British Islands took \$35,428,024; other European countries, \$3,489,661; British America, \$3,643,428; the West Indies, \$5,468,314; Brazil, \$3,304,960; and other American countries, the remainder, except \$1,747,197 that went to Asia and Oceania. The railroad and street cars and carriages went mainly to the Central and South American countries, the Argentine Republic being the largest customer. More than two thirds of the coal exports were for British America. Nearly all the copper ore and half of the copper was shipped to England. Of the raw cotton, 1,452,576,103 pounds went to England, 418,820,516 to Germany, 242,379,218 to France, 314,752,696 to other parts of Europe, 29,236,621 to Canada, 13,047,474 to Mexico, and 987,225 to other countries. The exports of cotton cloth went to Spanish America and to other parts of the world as well, China being the heaviest customer of all, taking \$19,360,356 yards, valued at \$1,223,965. Furs and skins went almost altogether to the English market, the German purchases amounting to only \$519,431, one half as much as in 1889. Of sewing machines, England was the largest buyer, and Germany came next, the two taking more than one half, while the rest were distributed in many countries, Mexico and Australia receiving the next largest shares. Steam engines and machinery were still more evenly distributed through the world, a larger proportion going to new countries. The leather went chiefly to Europe, England buying more than two thirds of the sole leather and nearly the whole of the other kinds. Three quarters of the naval stores went to Europe, being evenly divided between Great Britain and the Continent. Of the oil cake and oil-cake meal, England consumed about 70, and Germany 15 per cent. France imported two thirds of the crude mineral oil; of the refined, 145,950,324 gallons went to Germany, 89,032,697 to Great Britain, 9,372,178 to France, 140,416,211 to other countries of Europe, 44,033,265 to British India, 13,074,609 to China, 8,399,738 to Australasia, 72,525,163 to other countries in Asia and other islands of the Pacific, 8,451,842 to Africa, and the rest to American countries, among which Brazil took 8,848,011, Mexico 5,413,483, and the West Indies 4,521,819 gallons. Except nearly one ninth of the paraffine, which was used by Germany, almost all the rest was used by Great Britain. The British custom for canned beef was even more preponderant than usual; 64,265,020 out of the total of 82,666,247 pounds went to England, and the next largest quantity, namely, 4,239,891 pounds, to Germany. All the fresh beef except an insignificant fraction was sent to Great Britain. The salted and cured beef was more generally distributed, though England still consumed nearly two thirds of the entire export. Nineteen twen-

tieth of the tallow went to Europe, and of this the Continent used somewhat more than the British Islands. Of the 531,899,677 pounds of bacon sent out of the country 450,466,037 pounds were shipped to England, 2,106,234 to Germany, 56,084,179 to other European countries, 11,646,194 to the British possessions in America, and the remaining 11,500,000 or so were divided between the West Indies and South America. Of the hams, 76,591,379 pounds altogether, England received 64,878,007; the rest of Europe, 5,489,592; the West Indies, 3,076,909; and British America, 1,659,177. The lard shipments to Great Britain were 150,808,980 pounds; to Germany, 116,527,934; to France, 44,343,149; to the rest of Europe, 73,022,853; to the West Indies, 43,232,609; to Brazil, 17,920,500; to British America, 5,385,075. Of the oleomargarine, Germany took 9,551,890 pounds, Great Britain, 2,618,428, and France 1,142,474 pounds, while 53,517,804 pounds went to other parts of Europe. Of the butter, 15,448,163 pounds went to Great Britain, 3,734,573 to Germany, 3,643,057 to the West Indies, 3,249,037 to other European countries, and the rest to American countries; of the cheese, 81,875,298 pounds went to Great Britain and 11,453,860 to Germany, the rest of the total of 95,376,053 pounds to the West Indies and other countries. The largest consumers of the refined sugar exports were the West Indies, Colombia, and British North America. Great Britain took considerably more than one half and the rest of Europe nearly one quarter of the turpentine. The tobacco, amounting in total quantity to 255,647,026 pounds, was distributed in the following proportions: Great Britain and Ireland, 80,380,721; Germany, 57,371,935; France, 22,804,565; other countries in Europe, 77,328,675; British America, 7,114,024; Mexico, 1,349,203; and the West Indies, 2,740,177 pounds; smaller quantities going to other countries in America, Asia, Africa, and Oceania. The largest purchasers of manufactured tobacco were the Australians, the English, the South Americans, and the Germans. The lumber exports were divided mainly between Spanish America and Europe, a considerable quantity going also to Australia.

Movement of Specie.—The great expansion of the export trade of 1890, leaving a large balance in favor of the United States, had a corresponding effect on the specie exports. The net export of coin and bullion for the year amounted to \$18,172,094, against \$67,678,460 in 1889. The total exports of gold and silver coin and bullion in 1890 were \$52,148,420, against \$96,641,533 in 1889. The exports of domestic coin and bullion fell away from \$80,214,994 to \$35,782,189, while those of foreign coin and bullion remained about the same, being \$16,366,231 in 1890, against \$16,426,533 in 1889. In September, 1889, and again in May, 1890, the monthly reports showed a small excess of imports of specie, and the highest excess of exports was \$5,285,757 in July, 1889, the last symptom of the drain that took \$34,528,774 out of the country during the two preceding months. The gold imports in 1889-'90 amounted to \$12,943,342, consisting of \$2,391,395 of bullion, \$1,949,552 of United States coin, and \$8,602,395 of foreign coin. The exports of domestic gold were \$13,403,632, of which \$9,451,896 consisted of bullion, and \$3,951,736 of

United States coin; and of foreign gold there were \$3,870,859, of which \$13,800 were bullion and the rest was coin. The total imports of silver were \$21,032,984, of which \$7,085,684 represented bullion, \$206,773 minted pieces of the United States, and \$13,740,527 foreign coin. The exports of domestic silver were \$22,378,557 in amount, consisting of \$22,291,911 of bars and bullion, and \$86,646 of American coin. Of foreign silver coin and bullion \$12,495,372 were exported, \$12,400,835 consisting of coin.

CONGO FREE STATE. an independent state in Central Africa, constituted by the general act of the Congo, signed at Berlin on Feb. 26, 1885, which defines the limits of the territory and guarantees its neutrality. The navigation of the Congo, which was declared free to all nations, was placed under the control of an International Commission. The sovereign of the Free State is Leopold II, King of the Belgians, who assumed the dignity by authorization of the Belgian Parliament in 1885. The seat of the Supreme Government, which is composed of the King and the heads of the Departments of Foreign Affairs and Justice, Finance, and Internal Affairs, is at Brussels. A Superior Council was organized as a Court of Cassation and of Appeals in August, 1889. The head of the local administration is the Governor-General, at present C. Janssen. The country is divided into the administrative districts of Banana, Boma, Matadi, the district of the Cataracts, Stanley Pool, Kasai, the district of the Equator, Ubanji, Aruwimi and Welle, Stanley Falls, and Lualaba. The State includes a strip on the north bank of the Congo from its mouth to French territory at Manyanga. From Likona the Congo territory begins again on the north bank, and extends northward to 4° of north latitude, then eastward to 30° of east longitude, where the line turns southward, reaching to Lake Bangweolo in 12° of south latitude, whence it runs westward to 24° of east longitude, northward to 6° of south latitude, and then westward to Matadi. (See map in "Annual Cyclopædia" for 1888, page 123.)

The Geographical Conference of 1876 resulted in the formation of the International African Association. After the return of Henry M. Stanley in 1878 from his great voyage of discovery down the Congo an Upper Congo Committee was created, and between 1879 and 1884 the International Congo Association carried out hydrographical explorations and founded stations on the Congo. The Berlin African Conference in 1885 sanctioned the erection of the Independent State of the Congo under the sovereignty of the King of the Belgians, and the provisions of the general act were approved by the Belgian Legislature. In the same year the first Congo loan was issued, and in 1886 the preliminary survey of the Congo Railway route was made. In 1889 the Belgian state subscribed 10,000,000 francs of ordinary Congo Railway shares. The counter-claims of France to the territory on both shores of the middle Congo were adjusted by a delimitation conceding to her the north shore and an agreement contained in a letter of President Strauch, of the International Association of the Congo, to Jules Ferry, bearing date April 23, 1884, to the effect that if unforeseen circumstances ever compelled the association to dis-

pose of its possessions France should have a preferential right. The chief of the Foreign Affairs Department of the Congo State, M. Van Estvelde, on April 22, 1887, in a letter explanatory of this declaration, said that the International Congo Association did not admit that the preferential right of France to acquire its territories in the event of their transfer could be maintained against Belgium, of which King Leopold was ruler, although it was admitted that the Congo State could not cede its possessions to Belgium without binding that Government to recognize the preferential right of France.

Area and Population.—The area is about 2,091,000 square kilometres. The estimates of population vary from 12,000,000 to 40,000,000. There is an armed force of 8 companies, commanded by Europeans, garrisoned at several stations, numbering about 2,000 men, and also a corps of 1,000 native militia. At need the entire corps of employes and laborers may be called to arms to form an auxiliary corps. The naval force consists of five steamboats on the lower and eight on the upper Congo. The number of whites residing in the State at the end of 1889 was 430, of whom 160 were Belgians.

Commerce.—While there are no import duties, a tariff varying from 2 to 5 per cent. has been imposed on certain articles of export. The total volume of trade is about 15,000,000 francs, the exports in 1888 amounting to 7,392,348 francs. The principal exports were ivory, of the value of 2,034,920 francs; caoutchouc, 2,078,132 francs; coffee, 863,436 francs; palm kernels, 1,194,608 francs; palm oil, 799,808 francs; wax, 77,588 francs; and gum copal, 142,374 francs. Exports of less importance are ground-nuts, orchilla weed, cam-wood, fibers, skins, sesame, and fish oil. There is a regular steamer service connecting the ports of Boma and Banana with Europe. In 1888 the ports were visited by 958 vessels. The maritime movement at Boma in 1889 was 416,506 tons. The value of the imports for 1890 is estimated at 13,000,000 francs. The exports in 1889 amounted to 8,572,519 francs.

The Dutch have the largest factories at Banana, as at other places on the west coast of Africa, and a large part of the trade of the lower Congo region passes through their hands. In 1886 some Belgian capitalists formed a company with a capital of 500,000 francs to establish factories on the Congo. The capital was increased to 800,000 francs, and the results were so satisfactory that the Société Anonyme, for the commerce of the upper Congo, was founded, with a capital of 1,200,000 francs, on Dec. 10, 1888, which was authorized to carry on commercial, industrial, mining, and other businesses in the territories of the Congo State and elsewhere. At the end of the first year the stockholders divided 30 per cent. profits. On Jan. 30, 1890, it was decided to increase the capital to 3,900,000 francs. The old stockholders took 1,200 shares of preferred stock at 600 francs, 20 per cent. above the face value, and the same number of common shares offered to the public at the same premium were subscribed for seven times over. The management of the company's operations has been intrusted to Major Parmenton, who was for six years financial secretary of the Congo State, and afterward the

leader of the Sanford exploring expedition. He returned to the Congo in March, accompanied by the second director, Camille Delcommune, who has likewise had six years' experience on the Congo. The primary object of the company is to establish new factories along the river and to augment the flotilla of small steamboats, so that ivory, palm oil, and caoutchouc can be exported on a much larger scale. Already regular auction sales of ivory are held in Antwerp. An expedition of seven Europeans, under the direction of Alexander Delcommune, set out from Belgium in July, 1890, for the purpose of ascending the Congo and its tributary, the Lomami, in a steamer to the head of navigation, nearly opposite Nyangwe, and journeying thence on foot, protected by an escort of 150 native soldiers, through the region of the sources of the Congo, visiting the Lualaba and the chain of little lakes through which it passes; the Luapala, which traverses Lakes Bangweolo and Moero; the Lukuga, which issues from Lake Tanganyika; and the Lanji Lake, in which all three streams unite, according to the accounts of natives and Arabs. They intended to explore the mineral regions west of Lake Tanganyika that lie within the agreed boundaries of the Congo State, but which the English desire and are likely to claim on the ground of the discoveries of Livingstone if they can establish prior interests in that region. The Congo Railroad Company, with a capital of 25,000,000 francs, which has undertaken to build a railroad from the lower Congo to Stanley Pool, besides a grant of lands, which it will work, lease, or sell through the intermediation of special companies, has received the exclusive privilege of constructing new railroads, tramways and roads, docks, bridges, and other works designed to facilitate transportation, and has the right to establish a navigation service to the Congo or on the Congo. The railroad is expected to be completed by 1892. The Compagnie des Produits de Congo, on Feb. 8, 1890, resolved to increase its capital from 300,000 francs to 1,200,000 francs in order to raise cattle on the island of Mateba, where the serpents have been exterminated by swine, and eventually to engage also in planting on a large scale. A French company has been founded to establish means of communication between Brazzaville, on the Congo, and the coast by utilizing the Niari-Quillou. The scheme embraces a canal and a road which can be transformed into a narrow-gauge railroad. The colony of Gaboon and the French Congo, in addition to a grant of land, exempts the company from all taxes and guarantees 5 per cent. interest on the capital, pledging 20 per cent. of the local receipts for the purpose, while the company on its part agrees to pay to the colony 4 per cent. of its profits whenever they exceed 11 per cent. per annum. A French syndicate has acquired considerable interest in the Congo Railroad and other enterprises in the Congo State. On April 16, 1890, the King of the Belgians opened at Brussels an exhibition of products and manufactures of the Congo region.

The Convention with Belgium.—In July, 1890, a convention was entered into between the Congo State and the Belgian Government for the eventual annexation of the territories of the Free State to Belgium. The Belgian Chamber

approved the arrangement, with only one dissenting vote. By the terms of this convention Belgium will make a loan to the Congo State of 25,000,000 francs, of which sum 5,000,000 francs are to be advanced at once, and subsequently 2,000,000 francs a year for the next ten years. During these ten years the loan will bear no interest. Six months after the expiration of this term of ten years Belgium will be at liberty to annex the Congo State with all its properties and rights, in conformity with the act signed at Berlin on Feb. 26, 1885, and the act signed at Brussels on July 2, 1890, Belgium assuming all the obligations of the State toward other parties. King Leopold will at the same time renounce all claims for indemnity for the sacrifices which he has made. The Belgian Government will, according to the convention, henceforward receive direct all communications regarding the State, notably on matters connected with the budget and the customs receipts. At the same time Belgium will in no way interfere in the administration of the Congo State, which, on its part, engages to make no fresh loans without the assent of the Belgian Government. If after the term of ten years Belgium should not desire to annex the State, the loan of 25,000,000 francs will bear interest at $3\frac{1}{2}$ per cent., and its repayment can be demanded after the expiration of a further term of ten years. From the outset all money received for land and mining concessions must be applied to this purpose of repaying the loan. The preamble of the bill is followed by a testamentary declaration by King Leopold, stating that he bequeaths to Belgium all his sovereign rights over the Congo State unless the country should think fit during his lifetime to establish closer relations with the State. The King intends to pay an annual subsidy to the Congo State from his personal resources till 1900. He said, in reply to an address of the Chamber, that it was always his intention to bequeath the Congo State to Belgium, and felt confident that Belgium would not diminish the extent or importance of the new provinces. France raised no objection to the proposed cession. The bill in approval of the convention declares that the sovereignty will continue to be exercised by three administrators and a governor-general. Out of the first 5,000,000 francs of the loan the debts, which are inconsiderable, will be paid.

Financial Measures.—The expenditure of the State amounted in 1889 to 3,400,000 francs, and there was a deficit of 1,500,000 francs. The expenditures will increase if the State executes the measures prescribed by the Brussels Anti-Slavery Conference for the suppression of slavery. The act signed at the conference modifies the free-trade stipulation of the general act of the Berlin Conference by empowering the State to levy import duties not to exceed 10 per cent. *ad valorem*. But this permission remains in abeyance, owing to the refusal of the Netherlands to sign the act. The competence of the conference to amend the Berlin act was first called in question by the delegate of the United States. The United States Government, which was not a party to either act, subsequently signed a declaration relinquishing the right to the free entry of American merchandise on the conditions and within the limits specified in the Brus-

sels act. This declaration is to be supplemented by a treaty. A decree was issued in August prohibiting, in accordance with the decision of the conference, the sale of distilled liquors in the regions where their use has not been developed, that is, in the whole Congo territory east of the Jukussi river, and introducing a graduated license duty in the coast region on the hither side of the Jukussi. Direct taxes on industrial and other enterprises have been imposed, and tolls are levied on caravans and travelers crossing the bridges and ferries of the route from Matadi to Stanley Pool. An export duty of 50 francs on every 100 kilogrammes of caoutchouc and 200 francs on every 100 kilogrammes of ivory was decreed, to go into effect on Oct. 1, 1890, in addition to which license duties of from 2 to 4 francs per kilogramme of ivory are levied on the upper Congo. These new taxes, rendered necessary by the increased expenses for administration and the maintenance of order entailed by the rapid growth of commerce, drew protests from the Dutch mercantile community.

CONGREGATIONALISTS. I. Congregationalists in the United States.—*Statistics:* The "Year-Book of the Congregational Churches" for 1890 gives statistics of the Congregational churches in the United States, of which the following is a summary: Number of churches, 4,689; of new churches, 241; of ministers, 4,640, of whom 3,065 are pastors of churches; of members, 491,985; of members added during the year 1889 on confession, 29,286; of baptisms, of adults, 13,786; of infants, 8,889; of families connected with the churches, 325,149; of members of Sunday-schools, 597,351; of young people's societies of Christian Endeavor, 2,202, having a total membership of 106,156. Total amount of benevolent contributions, \$2,398,037; of which were, for foreign missions, \$357,929; for education, \$401,049; for church building, \$152,840; for home missions, \$464,167; for the American Missionary Association, \$147,088; for Sunday-schools, \$49,862; for the New West Educational Commission, \$47,477; for ministerial aid, \$12,893; for other objects, \$764,732. Charitable bequests to various purposes of the churches and societies had been paid to the amount of \$301,007. The sum of \$6,046,962, or \$1,068,073 more than in the previous year, had been contributed for home expenditures. The whole amount of pastoral salaries reported in 3,344 cases was \$3,500,072, showing an average of \$1,047. There appear from the tables as belonging to Congregational churches, 3,765 church buildings, having a total value of \$38,957,195, and 1,685 parsonages, valued at \$3,882,802. Besides the Sunday-schools represented in the tables, the agents of the Sunday-school Society furnish reports of seven States—California, Colorado, Michigan, Nebraska, North Dakota, South Dakota, and Wisconsin—of 346 Sunday-schools, with 12,926 members. Adding these to the numbers in the tables, the whole number of Sunday-schools becomes 610,277. Returns are given from 39 Congregational clubs, 7 of which were organized in 1889, and 2, up to the time of the preparation of the "Year-Book," in 1890.

SOCIETIES.—The receipts of the Congregational Sunday-school and Publishing Society

during 1889 were \$54,985, and its expenditures \$56,470. It had aided in the organization of 485 Sunday-schools, and had made about 2,500 grants of Sunday-school helps and other literature. It publishes Sunday-school helps, periodicals, books, and other requisites.

The 7 theological seminaries—at Andover, Mass., Bangor, Me., Chicago, Ill., Hartford, Conn., Oberlin, Ohio, Oakland, Cal. (Pacific), and New Haven, Conn. (Yale)—returned for 1889-'90, 47 professors, 27 instructors or lecturers, 10 resident licentiates or fellows, 22 students of advanced graduate classes, and 556 undergraduate students.

The income of the American College and Education Society for the year ending April 30, 1890, was \$101,425, of which \$58,336 were contributed for colleges and paid to them. The sum of \$27,894 was paid to students fitting for the ministry. Three hundred and sixty-four students had received assistance during the year. The colleges on the list as aided by the society were Colorado, Doane, Pacific University, Rollins, Whitman, and Yankton Colleges.

The library of the American Congregational Association in the Congregational Hall, Boston, contains 28,252 volumes, 54,222 pamphlets, and 32,294 unbound numbers of periodicals, besides duplicates.

The total resources for church building of the American Congregational Union for the year 1889 were \$183,473. It paid during the same year \$89,339 to aid churches, and otherwise disbursed \$17,542, leaving at the end of the year a balance on hand, but pledged, of \$76,592. The total resources for parsonages were \$33,941; and \$16,840 had been paid on the same account, leaving a balance in favor of the Parsonage fund of \$17,101. The Union aided during 1889 in building 100 houses of worship and 49 parsonages; and during the first three months of 1890, 44 churches and 17 parsonages. On April 1, 1890, it had aided in building, from its beginning, in all, 1,952 houses of worship and 240 parsonages.

American Home Missionary Society.—The sixty-fourth annual meeting of the American Home Missionary Society was held at Saratoga Springs, N. Y., beginning June 3. The Rev. Austin Abbott, LL.D., a vice-president, presided, in the absence of President Seelye. The total resources of the society for the year had been \$763,334, and \$711,695 had been paid to missionary laborers. Eighteen hundred and seventy-nine missionaries had been employed in 45 States and Territories, of whom 7 had been in commission as pastors or stated supplies of congregations of colored people, and 181 had preached in foreign languages (Welsh, German, Scandinavian, Bohemian, Polish, Chinese, Indian, French, and Spanish). The number of congregations and missionary districts supplied was 3,251; of Sunday-schools and Bible classes, 2,282, of which 311 were new schools; of pupils in the same, 141,775; of additions on confession of faith, 6,608; of churches organized, 184. Ninety-seven men connected with the missionary churches were studying for the ministry. A considerable increase from the previous year was exhibited in nearly all the items. An amendment to the charter of the society had been pro-

cured, under which it was authorized to hold its annual meetings outside of the State of New York, "in any State or Territory of the United States and in the District of Columbia."

The American Board.—The eightieth annual meeting of the American Board of Commissioners for Foreign Missions was held in Minneapolis, Minn., beginning Oct. 8. The Rev. Dr. R. S. Storrs presided. The income of the society for the year had been \$763,434, of which \$419,222 had come through donations. The amount of the donations was greater by \$22,877 than in the previous year, and \$32,355 more than the average of the past five years, and was the largest—when reduced to a gold value—ever received during one year in the history of the board. From the Swett bequest, which had been set apart to meet special calls for brief periods in the evangelistic and educational departments of missionary work abroad, \$72,708 had been appropriated; and from the Otis bequest, which had been set apart for new missions, \$61,482 had been applied, in west central Africa, east central Africa, Shansi, Hong-Kong, northern Japan, and northern Mexico. The Otis bequest would be nearly all distributed at the end of two years, and the new missions dependent upon it would then have to be supported from the current annual receipts of the society. The Swett bequest would probably be exhausted during the coming year. Among the matters especially noticed in the reports from the mission fields were an extensive revival which had prevailed in Aintab, Marash, Hadjin, Adana, and Tarsus, Asiatic Turkey; the small number of college graduates in the eastern and central Turkey missions who enter the theological seminaries, and the increasing tendency of promising young men who come to America to complete their studies and better their fortunes; and the good impression produced upon the people of Spain by the work of the high school for girls at San Sebastian. The following is an abstract of the general summary of the missions: Missions, 22; stations, 96; out-stations, 962; places for stated preaching, 1,402; average congregations, 65,236; ordained missionaries (12 being physicians), 183; male physicians not ordained (besides 5 women), 10; other male assistants, 7; women (7 of them physicians; wives, 181, unmarried, 152), 333; whole number of laborers sent from this country, 533; native pastors, 174; native preachers and catechists, 490; native school-teachers, 1,353; other native laborers, 382; total of native laborers, 2,399; total of American and native laborers, 2,932; churches, 387; church members, 36,256; added during the year, 4,554; whole number from the first, as nearly as can be learned, 114,953; theological seminaries and station classes, 14; pupils, 247; colleges and high schools, 66; pupils in the above, 4,600; boarding schools for girls, 56; pupils in boarding schools for girls, 3,180; common schools, 889; pupils in common schools, 33,114; whole number under instruction, 47,329; native contributions reported, \$117,494.

The committee of nine, which had been ap-

pointed at the previous meeting of the board "to inquire into the methods of administration pursued at the missionary rooms at Boston, and to recommend any changes which shall appear to them useful or important," reported that it had held four meetings; had examined the records of the Prudential Committee and the Treasurer; had read the papers and correspondence in nearly all the cases of applicants for missionary appointment whose cases had been made the topic of public comment, and of some others besides; had examined such other documents as bore upon the object of their inquiry; and had conferred with the chairman and members of the Prudential Committee. As a result of its inquiries, it had found the methods pursued in working and preserving the records and documents of the board worthy of praise. The general plan of administration in the treasury commended itself to approbation. A few modifications were recommended. Facts were presented, however, from the financial reports of a series of years past, which, when compared with similar items from the reports of other societies of the denomination and of societies of other denominations, and with the growth of the Congregational churches, seemed to indicate that in its relation to the benevolence of the churches and its grasp on their resources, the board had virtually stood still, while the other agencies of denominational enterprise had made an advance in the aggregate of about 80 per cent. "With an increase in our church membership of over 107,000, no corresponding increase has accrued to the treasury of this society. From 1880-'89 our membership grew more than 30 per cent.; our direct contributions from the churches and the Woman's Board grew less than 14 per cent." While it refrained from expressing any opinion respecting the causes of the financial infirmity shown by these facts, the committee uttered the conviction that, however explained, there was in them a powerful argument of urgency "that if there be alienations from the board, they be reconciled, and that every reasonable means be employed to deepen and strengthen the hold upon the hearts of our churches of the cause of foreign missions and of this its ancient representative." Concerning the third point of the inquiry, the method pursued in the appointment of missionaries, the committee found evidence of a degree of alienation from the present administration of the board, existing among some of the churches, pastors, educational institutions, and young men and women of the colleges and seminaries, "which, whether reasonable or unreasonable, we all alike deplore." Presuming that the legitimate object of an inquiry by the officers of the board into the theological opinions of applicants for missionary service is to ascertain whether they are conformed essentially to the doctrines commonly received by the churches, the committee were united in the judgment "that it is incompatible with the character of the board as a non-ecclesiastical body for its officers to frame creeds or statements of theological belief, under whatever title, to be submitted to candidates for appointment. Such a course is not to be applied, even though it be, as alleged, not to impose articles of faith upon the applicant, but simply to aid him in

* The report gives this number as 2,417, and the whole number of American and native laborers as 2,950; but there seems to be an error either in setting down the items or in the addition.

presenting his own belief. . . . In our judgment, the entire existing system of procedure with candidates, as far as it relates to theological views, is one that requires to be modified. Such modification, after earnest, and, we may perhaps not improperly add, prayerful deliberation on this important matter, we are prepared unanimously to propose. The change we suggest is one which we regard as not only better in itself than the method now in use, but one which we are convinced the present condition of the board's affairs renders indispensably necessary." The committee, therefore, in addition to the modifications which it recommended in the financial administration of the board, advised, with reference to the missionary appointments, that questions 1 and 2, Section VI, of the "Manual for Missionary Candidates" be amended so that they shall read as follows:

1. What are your views respecting each of the leading doctrines of Scripture commonly held by the churches sustaining this board? In answering this question, you may use your own language, or refer to any creeds of acknowledged weight.

2. Have you any views at variance with those doctrines, or any views of church government which would prevent your cordial co-operation with the missionaries of this board?

These questions being so amended, all applications for missionary appointment shall be made as now to the corresponding secretaries of the board. Without further correspondence on doctrinal matters the communications thus received by the secretaries shall be presented forthwith to the Prudential Committee. In case the committee desire further scrutiny into the theological opinions of the candidate, this shall be had through an interview with the committee as a body; or, in case this in any special instance is not practicable, with a sub-committee appointed by them from their own number and consisting in part of laymen. At such theological examination by the committee or sub-committee the doors shall be open for the presence of any members of the board or personal friends of the candidate.

These recommendations were adopted.

The committee of fifteen, which had been appointed two years previously "to consider the relations of the board to the churches and individuals who make it their missionary agent, and the expediency, in view of the facts which they may ascertain, of securing a closer union between them, especially including the subject of the selection of corporate members," reported that it had sought information concerning the feeling of the churches on the subject by sending out circulars to those which were considerable contributors to the funds of the board, asking for expressions of their views upon it. Two thirds of the churches failed to respond with any expression of judgment, and less than 20 per cent. of them recommended any change. The committee were embarrassed by the great proportion of the silent churches.

Some of our number [the report says] would have been in favor of proposing some method by which the contributing churches should be more directly represented in the election of members of this board, some would have favored the classes relation of honorary to corporate members, and some would have been in favor of submitting to the State and local bodies of the Congregational churches the desirableness of nomination by such bodies, while others were opposed to any and all of these suggested changes. Under these circumstances, therefore, we deem it wise to

make no proposition for action by the board at the present time, and we unanimously join in the recommendation that the committee be discharged, believing that whatever desire the churches or donors may entertain has not yet found sufficient expression to command at present any modification of our system.

A motion to adopt the report and discharge the committee was carried unanimously. The meeting resolved upon the presentation of a memorial to the President and Congress of the United States, asking that the Government "initiate and present, by treaty or otherwise, in such ways as shall seem wise and fit, such proceedings as may speedily lead to the universal prohibition of all exportation of alcoholic liquors to the uncivilized and half-civilized peoples" of Africa.

American Missionary Association.—The annual meeting of the American Missionary Association was held in Northampton, Mass., beginning Oct. 21. The Rev. William M. Taylor, D. D., LL. D., presided. The current receipts of the society for the year had been \$408,039, which, with the balance on hand at the close of the year, made a total of \$412,510. The expenditures had been \$412,421. Of the 5 chartered institutions in the South, Fisk University, Nashville, Tenn., and Talladega College, Alabama, had each more than 500 students, with theological departments, and Tougaloo University, Mississippi, had 383 students. The 20 normal and graded schools, situated in 7 different States, provide the same courses of study, up to the college departments, as the chartered institutions. Of them, Le Moyne School, at Memphis, Tenn., reported an attendance of 600 students, and Ballard Normal School of 595. Including the normal departments of the chartered institutions, 26 schools for especially normal instruction for teachers were aided by the association. The 53 common schools were crowded with eager pupils. Manual and industrial training form a part of the course in all the schools. Three hundred and forty instructors were employed and 13,395 pupils were enrolled in the 79 schools. A gain was recorded of 19 schools, 80 teachers, and 3,301 students. Much of this increase had been made possible by means of the incomes from the Daniel Hand fund. Of the pupils, 83 were in the theological, 67 in the collegiate, and 1,225 in the normal departments. Of the church work in the South, which is closely connected with the educational work, there were returned 128 churches, with 107 missionaries, 7,970 members, and 14,492 pupils in Sunday-schools, and 713 members had been added by confession of faith. Missions and schools among the Indians were sustained at the Santee Agency, Nebraska, and at Oahe, Standing Rock, Fort Berthold, Rosebud, and Skokomish stations, and the Ramona School, Santa Fé, New Mexico; and a station, with two missionaries, had been begun at Point Prince of Wales, Alaska. These returned 9 churches, with 438 members, 16 schools, 87 missionaries and teachers, 527 pupils (of whom 12 were theological and 12 were normal students), and 640 pupils in Sunday-schools. The 18 schools for the Chinese (2 more than in the previous year) employed 33 teachers and were attended by 1,310 pupils, of whom 204 had ceased from idolatry, and 159 had given evidence of conversion. The pupils were all young men. The Bible was

a prominent text-book, and the purpose of the instruction was to Christianize the pupils. The Chinese attendants were very liberal in the support of the mission and in taking up work for their native land. They had built a chapel in connection with a mission which the association of Christian Chinese is supporting in Hong-Kong, and had opened several free schools. The association had raised during the year \$2,500 for the work in California and China. The work among the people of the mountain regions of the South had been successfully prosecuted. In view of the enlarged work of the association, and of the increased diversity of its labors for the negro, the Indian, the mountain white people, and the Chinese, a committee of conference, representing the churches and consisting of seven members, was appointed to visit the office of the association, consider the adaptation of its present methods to the enlarged conditions of its work, and make such suggestions as may appear wise and desirable.

II. Congregationalists in Great Britain.

—The English "Congregational Year-Book" for 1890 gives the whole number of Congregational churches in England and Wales as 4,585, showing an increase of 33 over the previous year. These churches provided sittings for 1,645,000 persons. The whole number of churches, including those in Scotland, Ireland, and the Channel Islands, was 4,726; and including also churches and mission stations in the colonies and dependencies, 5,420. There were 2,710 ministers in England and Wales, 2,023 of whom were in pastoral charge. Seventeen colleges in Great Britain and the colonies returned 58 professors and lecturers and 428 students for the ministry; and 300 native students were under instruction at training institutions in heathen lands.

London Missionary Society.—The annual meeting of the London Missionary Society was held in London, May 15. Sir Charles Aitchison presided. The income of the society for the year had been £121,455, of which £17,876 had been raised for and expended on special objects in the mission field. A balance in hand was returned of £3,209. A legacy of £42,000 from the late Sir James Tylor was the largest the society had ever received, but it was burdened by a special rent charge. It was represented, in moving the adoption of the report, that out of every pound sterling subscribed to the funds of the society, 17s. 1½d. went to the mission field, 11½d. were expended upon retired missionaries and missionaries' widows, and 1s. 10½d. were expended in maintaining the machinery of the society.

A committee appointed by the directors of the society in 1889 to examine its methods of management and administration made an investigation which was continued through eight months. It sought information at first hand from missionaries at home, from India, China, and Japan, fields in which the policy of the missions has been most criticised. In general, the committee approved the course of the society, including some reforms recently instituted. While no material change was recommended in the present arrangement for the education of missionary candidates, it was considered desirable that the history of Christian missions and the history,

philosophy, and comparison of religions should be studied, especially by missionaries going to India and China. While the expediency of employing unmarried men for a limited time and under special circumstances was admitted, emphatic testimony was borne to the force of the example of a Christian home life and to the value of the labor and influence of missionaries' wives. A proposal to accept the services of educated lay evangelists, the development and improvement of the lay agency, and the plan of working from fixed local centers as contrasted with "a vague itinerancy," were approved. On the question of education in India, concerning which the differences of opinion among the friends of the society are most marked, the committee pointed out that the abandonment of the educational work would mean—

the surrender of our hold on the young mind of India in this crisis of its intellectual and moral history, when the first stirrings of a rational mind are beginning to be felt and old faiths are tottering to their fall. It would mean the handing over of the cultured youth of India, the hope of the future, either to schools from which religion is systematically excluded, where morality has therefore no firm footing, and where there may be agnostic and positivist teachers as bitterly hostile to Christianity as the heathen, or else to Rome and the Jesuits, eagerly watching the opportunity to step in and fill our empty place.

While conversions were acknowledged to be lamentably rare among the results of educational work, it was contended that the pupils receive a degree of preparation for the Gospel which would otherwise be lacking, and that the schools are to a considerable extent self-supporting. The committee recommended that the Christian character of the schools be kept in view, that sufficient time be devoted to Scripture lessons, and that non-Christian teachers be not employed when it can be avoided. The present salaries of the missionaries were considered by the committee as low as they should be; and with regard to financial management generally, the difficulties which were facing the society had arisen not from waste or mismanagement, but from success.

Congregational Union of England and Wales.

—The fifty-eighth annual meeting of the Congregational Union of England and Wales was held in London, beginning May 12. The Rev. Thomas Green presided. The executive committee reported that its income had been £16,910 and its expenditure £1,906 less. The proposition to hold an international Congregational Council had been approved by it, and it presented a scheme of organization, according to which the council should meet during the former half of July, 1891, and should continue in session for a week; should consist of 300 members—100 for England, 100 for the United States, and 100 for Wales, Scotland, Ireland, the colonies, "and the rest of the world." A separate chairman should be appointed for each day and the opening sermon should be preached by the Rev. Dr. R. S. Storrs, of Brooklyn, N. Y. The time and place designated for the council had been agreed to by the American committee. (Dr. Storrs has since given notice that he can not preach the opening sermon.) A series of publications containing "a simple statement of the truth" had been decided upon to counter-

act representations hostile to Congregationalism made in tracts and parish magazines. A resolution protesting against including a return of the religious professions of the people in the proposed census of 1891 had been sent to the Prime Minister and to the leader of the Opposition. This action was approved by the Assembly, which instructed the committee to watch the action of the Government and the House of Commons and take such steps as might seem necessary to prevent the religious enumeration being included in the census. A resolution was adopted condemning the traffic in alcoholic drinks carried on between professedly Christian communities and unenlightened races, such as those of Africa, and expressing a hope that in connection with the international deliberations for the purpose of putting down the slave trade some measures might be suggested for suppressing this trade also. A protest was made against the proposals of the Government to give compensation to publicans from public money on account of non-renewal of licenses. Another resolution of the Assembly called on all Liberals and Nonconformists to insist that free education shall be accompanied by popular representative control of all schools aided by public funds. A favorable report was made of the working of the guilds or young people's associations for Christian work and religious and mental cultivation, in which educational classes and lectures and means for healthful physical recreation are also provided. A resolution was adopted inviting the attention of the churches to the urgency of the call made upon them for active and aggressive Christian ministrations in view of the religious indifference prevailing widely in all classes of English society and to the lack of any adequate response to the call, and asking them to make the matter a subject of special prayer on the first Sunday in October. A committee was appointed to consider the subject and report what steps the churches may take to increase their usefulness to the English people.

The autumnal meeting of the Union was held at Swansea, Wales, beginning Sept. 29. The committee appointed at the meeting in May to consider what measures the churches might take to increase their usefulness to the English people presented a long report reviewing the social and moral conditions of the country and the attitude of the churches in relation thereto.

Reference was made in it to the "strong ethical tendency" of the age as characteristic of it and as something unique in history, and to the necessity of bringing religion into closer contact with common, practical life. The greatly changed and still changing position of the wage-earning classes, constituting a majority of the population, was mentioned as a feature essential to the completeness of any view of the conditions under which the Christian work of the near future will have to be carried on. It would be a superficial and short-sighted view to take the advance of the working classes in political and economical authority as a factitious result, susceptible of diversion. Attention must be given to the fact that the new movement has developed new ruling ideas which, if primarily social, are also religious, the primary feature of which is the disposition to regard the constitution and duties of

society from a socialistic rather than an individualistic point of view. The ministry of the churches, the committee concluded, whatever its sphere, form, or degree, should be contemplated, approached, undertaken, and fulfilled in the name and power of Jesus Christ. Motive, here, is all important. There is a place for concurrent and auxiliary motives in Christian work, but it is the second place. Christ himself is the inspiration of such work as He promises to acknowledge. It must always be the desire of the churches to place religion before the world in its simplest and most essential form, with the will of God as its ruling motive. Christian service should be recognized as being the normal and permanent relation of every member of the kingdom of God. The wise and faithful servant of Christ will be studious to discern such opportunities of new and enlarged service as the circumstances of his time afford for benefiting mankind. In our days, in a constitutionally governed country, Christianity is called to be not only remedial and palliative, but constructive. It must enter into practical life, and make itself felt and useful in works which may contribute to the practical benefit and improvement of society.

The Church Aid Society returned a year's income of about £30,000, and had aided 677 churches and 581 stations. If the sums raised locally were added to its income the whole amount contributed for its purposes would be found to be £90,000. The General Committee was instructed to consider the subject of a Federal Union of the Free Churches. A Standing Council of Secondary Education was instituted, to further the interests of Nonconformist public schools and to establish closer relations between them and the parents; and a fund was decided upon for providing scholarships at the schools and exhibitions at the universities. The council was authorized to consider measures for the extension and increase of Congregational schools. The opening address of the chairman of the society was on "The Secular Element of our Church Life." The papers read and the discussions during the meetings related to the "Strength and Progress of Congregationalism as dependent on Practical Fidelity to the Congregational System"; "The Means of Keeping Young People who have left their Homes, especially those who have gone to the Large Towns, under the Influence of the Churches"; "The Exposition and Enforcement of Free-Church Principles"; "The True Spiritual Lineage of Independent and Free Churchism"; "Christ, and the Social Problems of Modern Times"; "Work Among the Young"; "How to Deal with Agnosticism"; "The Adaptation of Congregationalism to Aggressive Christian Work"; and "Young People's Guilds." Meetings were held in behalf of total abstinence, the Church Aid Society, and missions.

III. Evangelical Union of Scotland.—The Conference of the Evangelical Union of Scotland was held in Glasgow in October. A committee was appointed to consider to what objects the jubilee fund of £10,000, which it is proposed to raise in 1892, shall be applied. A fraternal delegate was received from the Scottish Congregational Union who advocated the holding of joint meetings by the two denominations.

CONGRESS OF THE UNITED STATES.

The first session of the Fifty-first Congress met on Monday, Dec. 2, 1889. The Senate was composed of the following members:

<i>Alabama.</i>	<i>Montana.</i>
1891. James L. Fugh, D.	1893. Wilbur F. Sanders, R.
1895. John T. Morgan, D.	1895. Thomas C. Power, R.
<i>Arkansas.</i>	<i>Nebraska.</i>
1891. James K. Jones, D.	1893. A. S. Padlock, R.
1895. James H. Berry, D.	1895. C. F. Manderson, R.
<i>California.</i>	<i>Nevada.</i>
1891. Leland Stanford, R.	1891. John P. Jones, R.
1895. George Hearst, D.	1893. William M. Stewart, R.
<i>Colorado.</i>	<i>New Hampshire.</i>
1891. Henry M. Teller, R.	1891. Henry W. Blair, R.
1895. Edward O. Wolcott, R.	1895. Wm. E. Chandler, R.
<i>Connecticut.</i>	<i>New Jersey.</i>
1891. Orrville H. Platt, R.	1893. Rufus Blodgett, D.
1895. Joseph K. Hawley, R.	1895. John E. McPherson, D.
<i>Delaware.</i>	<i>New York.</i>
1893. George Gray, D.	1891. William M. Everts, R.
1895. Anthony Higgins, R.	1893. Frank Hiscock, R.
<i>Florida.</i>	<i>North Carolina.</i>
1891. Wilkinson Call, D.	1891. Zebulon B. Vance, D.
1893. Samuel Pasco, D.	1895. Matt. W. Ransom, D.
<i>Georgia.</i>	<i>North Dakota.</i>
1891. Joseph E. Brown, D.	1891. Gilbert A. Pierce, R.
1895. Alfred H. Colquitt, D.	1893. Lyman R. Casey, R.
<i>Illinois.</i>	<i>Ohio.</i>
1891. Charles B. Farwell, R.	1891. Henry B. Payne, D.
1895. Shelby M. Cullom, R.	1893. John Sherman, R.
<i>Indiana.</i>	<i>Oregon.</i>
1891. Daniel W. Voorhees, D.	1891. John H. Mitchell, R.
1893. David Turpie, D.	1895. Joseph N. Dolph, R.
<i>Iowa.</i>	<i>Pennsylvania.</i>
1891. William B. Allison, R.	1891. J. D. Cameron, R.
1895. James F. Wilson, R.	1893. Matthew S. Quay, R.
<i>Kansas.</i>	<i>Rhode Island.</i>
1891. John J. Ingalls, R.	1893. Nelson W. Aldrich, R.
1895. Preston B. Plumb, R.	1895. Nathan F. Dixon, R.
<i>Kentucky.</i>	<i>South Carolina.</i>
1891. J. C. S. Blackburn, D.	1891. Wade Hampton, D.
1895. James B. Beck, D.	1895. Matthew C. Butler, D.
<i>Louisiana.</i>	<i>South Dakota.</i>
1891. James B. Eustis, D.	1891. Gideon C. Moody, R.
1895. Randall L. Gibson, D.	1895. E. F. Pettigrew, R.
<i>Maine.</i>	<i>Tennessee.</i>
1893. Eugene Hale, R.	1893. William B. Bate, D.
1895. William F. Frye, R.	1895. Isham G. Harris, D.
<i>Maryland.</i>	<i>Texas.</i>
1891. Ephraim K. Wilson, D.	1893. John H. Reagan, D.
1895. Arthur P. Gorman, D.	1895. Richard Coke, D.
<i>Massachusetts.</i>	<i>Vermont.</i>
1893. Henry L. Dawes, R.	1891. Justin S. Morrill, R.
1895. George F. Hoar, R.	1893. G. F. Edmunds, R.
<i>Michigan.</i>	<i>Virginia.</i>
1891. F. B. Stockbridge, R.	1893. John W. Daniel, D.
1895. James McMillan, R.	1895. John S. Barbour, D.
<i>Minnesota.</i>	<i>Washington.</i>
1893. Cushman K. Davis, R.	1891. Watson C. Squire, R.
1895. Wm. D. Washburn, R.	1893. John B. Allen, R.
<i>Mississippi.</i>	<i>West Virginia.</i>
1893. James Z. George, D.	1893. C. J. Faulkner, D.
1895. E. C. Walthall, D.	1895. John F. Kenna, D.
<i>Missouri.</i>	<i>Wisconsin.</i>
1891. George G. Vest, D.	1891. John C. Spooner, R.
1893. Francis M. Cockrell, D.	1893. Philletus Sawyer, R.

Republicans, 47; Democrats, 37.

The House of Representatives was composed of the following members:

<i>Alabama.</i>	James E. Cobb, D.
Richard H. Clarke, D.	John H. Bankhead, D.
Hilary A. Herbert, D.	William H. Forney, D.
William C. Oates, D.	Joseph Wheeler, D.
Louis W. Turpin, D.	
<i>Arkansas.</i>	John H. Rogers, D.
W. H. Cate, D.	Samuel W. Pool, D.
C. R. Breckinridge, D.	
Thomas C. McRae, D.	
<i>California.</i>	W. W. Morrow, R.
John J. DelHaven, R.	Thomas J. Clunie, D.
Marion Biggs, D.	William Vandever, R.
Joseph McKenna, R.	
<i>Colorado.</i>	Hoses Townsend, R.
<i>Connecticut.</i>	Charles A. Russell, R.
William Edgar Simonds, R.	Frederick Miles, R.
W. F. Wilcox, D.	
<i>Delaware.</i>	John B. Pennington, D.
<i>Florida.</i>	Robert Bullock, D.
Robert H. M. Davidson, D.	
<i>Georgia.</i>	James H. Blount, D.
Rufus F. Lester, D.	Judson C. Clements, D.
Henry G. Turner, D.	Henry H. Carlton, D.
Charles F. Crisp, D.	Allen D. Candler, D.
Thomas W. Grimes, D.	George T. Barnes, D.
John D. Stewart, D.	
<i>Illinois.</i>	William H. Gest, R.
Abner Taylor, R.	Scott Wike, D.
Frank Lawler, D.	William M. Springer, D.
William E. Mason, R.	Jonathan H. Rowell, R.
George E. Adams, R.	Joseph G. Cannon, R.
A. J. Hopkins, R.	George W. Fithian, D.
Robert K. Hitt, R.	Edward Lane, D.
Thomas J. Henderson, R.	W. S. Forman, D.
Charles Augustus Hill, R.	James E. Williams, D.
Lewis E. Payson, R.	George W. Smith, R.
Philip S. Post, R.	
<i>Indiana.</i>	Elijah V. Brookshire, D.
William F. Parrett, D.	Joseph B. Cheadle, R.
John H. O'Neill, D.	William D. Owen, R.
Jason B. Brown, D.	Augustus N. Martin, D.
William S. Holman, D.	C. A. O. McCellan, D.
George W. Cooper, D.	Benjamin F. Shively, D.
Thomas M. Browne, R.	
William D. Bynum, D.	
<i>Iowa.</i>	Edwin H. Conger, R.
John H. Gear, R.	James P. Flick, R.
Walter I. Hayes, D.	Joseph R. Reed, R.
David B. Henderson, R.	J. P. Dolliver, R.
Joseph H. Sweeney, R.	Isaac S. Struble, R.
Daniel Kerr, R.	
John F. Lacey, R.	
<i>Kansas.</i>	John A. Anderson, R.
Edmund N. Morrill, R.	Erastus J. Turner, R.
Edward H. Funston, R.	Samuel R. Peters, R.
Bishop W. Perkins, R.	
Harrison Kaley, R.	
<i>Kentucky.</i>	Wm. C. P. Breckinridge, D.
William J. Stone, D.	James B. McCreary, D.
William T. Ellis, D.	Thomas H. Paynter, D.
I. H. Goodnight, D.	John H. Wilson, R.
A. B. Montgomery, D.	H. F. Finley, R.
Asher G. Caruth, D.	
John G. Carlisle, D.	
<i>Louisiana.</i>	Newton C. Blanchard, D.
Theodore S. Wilkinson, D.	Charles J. Boatner, D.
H. Dudley Coleman, R.	S. M. Robertson, D.
Andrew Price, D.	
<i>Maine.</i>	Seth L. Milliken, R.
Thomas B. Reed, R.	Charles A. Boutelle, R.
Nelson Dingley, Jr., R.	

¹ Died, succeeded by John G. Carlisle.

Maryland.

Charles H. Gibson, D.
 Herman Stump, D.
 Harry Welles Rusk, D.

Henry Stockbridge, Jr., R.
 Barnes Compton, D.
 Louis E. McComas, R.

Massachusetts.

Charles S. Randall, R.
 Elijah A. Morse, R.
 John F. Candier, D.
 Joseph H. O'Neill, D.
 N. P. Banks, R.
 Henry Cabot Lodge, R.

William Cogswell, R.
 F. T. Greenhalge, R.
 John W. Candier, R.
 Joseph H. Walker, R.
 Rodney Wallace, R.
 Francis W. Rockwell, R.

Michigan.

J. Logan Chipman, D.
 Edward P. Allen, R.
 James O'Donnell, R.
 Julius C. Burrows, R.
 Charles E. Belknap, R.
 Mark S. Brewer, R.

Justin B. Whiting, D.
 Aaron T. Bliss, R.
 Byron M. Cutcheon, R.
 F. W. Wheeler, R.
 Samuel M. Stephenson, R.

Minnesota.

Mark H. Dunnell, R.
 John Lind, R.
 Darwin S. Hall, R.

S. P. Snider, R.
 Sol. G. Comstock, R.

Mississippi.

John M. Allen, D.
 J. B. Morgan, D.
 T. C. Catchings, D.
 Clarke Lewis, D.

C. L. Anderson, D.
 Thomas R. Stockdale, D.
 Charles E. Hooker, D.

Missouri.

William H. Hatch, D.
 Charles H. Mansur, D.
 Alex. M. Dockery, D.
 Robert P. C. Wilson, D.
 John C. Tarney, D.
 John T. Heard, D.
 Richard H. Norton, D.

F. G. Niedringhaus, R.
 Nathan Frank, R.
 William M. Kinsey, R.
 Richard P. Bland, D.
 William J. Stone, D.
 William H. Wade, R.
 James P. Walker, D.

Montana.

Thomas H. Carter, R.

Nebraska.

William J. Connell, R.
 Gilbert L. Laws, R.

George W. E. Dorsey, R.

Nevada.

Horace F. Bartine, R.

New Hampshire.

Alonzo Nute, R.

Orren C. Moore, R.

New Jersey.

Christopher A. Bergen, R.
 James Buchanan, R.
 Jacob A. Geisenhalmer, D.
 Samuel Fowler, D.

Charles D. Beckwith, R.
 Herman Lehlbach, R.
 William McAldoo, D.

New York.

James W. Covert, D.
 Felix Campbell, D.
 William C. Wallace, R.
 John M. Clancy, D.
 Thomas J. Magner, D.
 Charles H. Turner, D.
 Edward J. Dunphy, D.
 John Henry McCarthy, D.
 Amos J. Cummings, D.
 Francis B. Spinola, D.
 John Quinn, D.
 Roswell P. Flower, D.
 Ashbel P. Fitch, D.
 William G. Stahlmecker, D.
 Moses D. Stivers, R.
 John H. Ketcham, R.
 Charles J. Knapp, R.

John A. Quackenbush, R.
 Charles Tracey, D.
 John Sanford, R.
 John H. Moffitt, R.
 Frederick Lansing, R.
 James S. Sherman, R.
 David Wilber, R.
 James J. Bolden, R.
 Milton Delano, R.
 Sereeno E. Payne, R.
 Thomas S. Flood, R.
 John Raines, R.
 Charles S. Baker, R.
 John G. Sawyer, R.
 John M. Farquhar, R.
 John M. Wiley, D.
 William G. Laidlaw, R.

North Carolina.

Thomas G. Skinner, D.
 Henry P. Cheatham, R.
 Charles W. McClammy, D.
 Benjamin H. Bunn, D.
 John M. Brower, R.

Alfred Rowland, D.
 John S. Henderson, D.
 William H. H. Cowles, D.
 Hamilton G. Ewart, R.

North Dakota.

Henry C. Hansbrough, R.

Ohio.

Benjamin Butterworth, R.
 John A. Caldwell, R.
 Elihu S. Williams, R.
 Samuel S. Yoder, D.
 George E. Seney, D.
 Melvin M. Boothman, R.
 Henry L. Morey, R.
 Robert P. Kennedy, R.
 William C. Cooper, R.
 William E. Haynes, D.
 Albert C. Thompson, R.

Jacob J. Pugsley, R.
 Joseph H. Outhwaite, D.
 Charles P. Wickham, R.
 Charles H. Grosvenor, R.
 James W. Owens, D.
 Joseph D. Taylor, R.
 William McKinley, Jr., R.
 Ezra B. Taylor, R.
 Martin L. Smyser, R.
 Theodore E. Burton, R.

Oregon.

Binger Hermann, R.

Pennsylvania.

Henry H. Bingham, R.
 Charles O'Neill, R.
 Samuel J. Randall, D.
 William D. Kelley, R.
 Alfred C. Harner, R.
 Smedley Darlington, R.
 Robert M. Yardley, R.
 William Mutchler, D.
 David B. Brunner, D.
 Marriott Brosius, R.
 Joseph A. Scranton, R.
 Edwin S. Osborne, R.
 James B. Reilly, D.
 John W. Rite, R.

Myron B. Wright, R.
 Henry C. McCormick, R.
 Charles E. Buckalew, D.
 Louis E. Atkinson, R.
 Levi Malsh, D.
 Edward Scull, R.
 Samuel A. Craig, R.
 John Dalzell, R.
 Thomas M. Ray, R.
 J. Warren Ray, R.
 Charles C. Townsend, R.
 William C. Culbertson, R.
 Lewis F. Watson, R.
 James A. Kerr, D.

Rhode Island.

Henry J. Spooner, R.

Warren O. Arnold, R.

South Carolina.

Samuel Dibble, D.
 George D. Tillman, D.
 James S. Cottrill, D.
 William H. Perry, D.

John J. Hemphill, D.
 George W. Dargan, D.
 William Elliott, D.

South Dakota.

Oscar S. Gifford, R.

John A. Pickler, R.

Tennessee.

Alfred A. Taylor, R.
 Leonidas C. Houk, R.
 H. Clay Evans, R.
 Benton McMillin, D.
 James D. Richardson, D.

Joseph E. Washington, D.
 Wash. C. Whitthorne, D.
 Benjamin A. Enloe, D.
 Rice A. Pierce, D.
 James Phelan, D.

Texas.

Charles Stewart, D.
 William H. Martin, D.
 C. Buckley Kilgore, D.
 David B. Culbertson, D.
 Silas Hare, D.
 Jo Abbott, D.

William H. Crain, D.
 J. Littleton W. Moore, D.
 Roger Q. Milia, D.
 Joseph D. Sayers, D.
 Samuel W. T. Lanham, D.

Vermont.

John W. Stewart, R.

William W. Gront, R.

Virginia.

T. H. Bayly Browne, R.
 George E. Bowden, R.
 George D. Wise, D.
 Edmund C. Venable, D.
 Posey G. Lester, D.

Paul C. Edmunds, D.
 Charles T. O'Ferrall, D.
 William H. F. Lee, D.
 John A. Buchanan, D.
 Harry St. G. Tucker, D.

Washington.

John L. Wilson, R.

West Virginia.

John O. Pendleton, D.
 William L. Wilson, D.

John D. Alderson, D.
 J. M. Jackson, D.

Wisconsin.

Lucien B. Caswell, R.
 Charles Barwig, D.
 Robert M. La Follette, R.
 Isaac W. Van Schaick, R.
 George H. Brickner, D.

Charles B. Clark, R.
 Ormsby B. Thomas, R.
 Nils P. Haugen, R.
 Myron H. McCord, R.

Republicans, 170; Democrats, 160.

J. B. Williams, of Illinois, was elected to succeed R. W. Townshend, deceased.

Harrison Kelley, of Kansas, was elected to succeed Thomas Ryan on his appointment as minister to Mexico.

Andrew Price, of Louisiana, was elected to succeed Edward J. Gay, deceased.

Robert F. C. Wilson, of Missouri, was elected to succeed James N. Burnes, deceased.

Gilbert L. Laws, of Nebraska, was elected to succeed James Laird, deceased.

Amos J. Cummings, of New York, was elected to succeed Samuel S. Cox, deceased.

Sereno E. Payne, of New York, was elected to succeed Newton W. Nutting, deceased.

Charles H. Turner, of New York, was elected to succeed Frank T. Fitzgerald, resigned.

During the session several changes occurred. John G. Carlisle was elected to the Senate, and was succeeded by W. W. Dickinson.

David Wilber, of New York, died.

Samuel J. Randall, of Pennsylvania, died, and was succeeded by Richard Vaux; W. D. Kelley, of Pennsylvania, died, and was succeeded by John E. Keyburn.

George D. Wilson, of Virginia, was unseated in favor of Edmund Waddill, Jr.

L. W. Turpie, of Alabama, was unseated in favor of John V. McDuffie.

J. O. Pendleton, of West Virginia, was unseated in favor of G. W. Atkinson.

W. H. Cate, of Arkansas, was unseated in favor of L. P. Featherston.

Barnes Compton, of Maryland, was unseated in favor of S. E. Mudd.

J. M. Jackson, of West Virginia, was unseated in favor of Charles B. Smith.

E. C. Venable, of Virginia, was unseated in favor of John M. Langston.

William Elliott, of South Carolina, was unseated in favor of T. E. Miller.

C. R. Breckinridge, of Arkansas, was declared without title to a seat in Congress, and his seat was pronounced vacant.

The Territorial delegates were as follow:

Arizona—Marcus A. Smith, D.

Idaho—Frederick T. Dubois, R.

New Mexico—Antonio Joseph, D.

Utah—John T. Caine, (the people's ticket).

Wyoming—Joseph M. Carey, R.

The House organized by electing Thomas B. Reed, of Maine, Speaker. He received 166 votes against 154 for John G. Carlisle, of Kentucky, and one vote for Amos J. Cummings, of New York. On taking the chair, Mr. Reed said:

Gentlemen of the House of Representatives: I thank you for the high office which your voices have bestowed upon me. It would be impossible not to be moved by its dignity and honor. Yet you may well imagine that I am at this moment more impressed by its responsibilities and duties. Under our system of government as it has been developed, these responsibilities and duties are both political and parliamentary. So far as the duties are political, I sincerely hope they may be performed with a proper sense of what is due to the people of this whole country. So far as they are parliamentary, I hope, with equal sincerity, that they may be performed with a proper sense of what is due to both sides of this chamber. To the end that I may satisfactorily carry out your will, I invoke the considerate judgment and the cordial aid of all the members of the House.

The other officers of the House were chosen as follow: Chaplain, William H. Milburn; Clerk, Edward J. McPherson; Sergeant-at-arms, Adoniram J. Holmes; Postmaster, James L. Wheat.

The Message.—On Tuesday, Dec. 3, on notification that both Houses of Congress were ready for business, the President sent in his first annual message as follows:

To the Senate and House of Representatives:

There are few transactions in the administration of the Government that are even temporarily held in the confidence of those charged with the conduct of the public business. Every step taken is under the observation of an intelligent and watchful people. The state of the Union is known from day to day, and suggestions as to needed legislation find an earlier voice than that which speaks in these annual communications of the President to Congress.

Good-will and cordiality have characterized our relations and correspondence with other governments, and the year just closed leaves few international ques-

tions of importance remaining unadjusted. No obstacle is believed to exist that can long postpone the consideration and adjustment of the still pending questions upon satisfactory and honorable terms. The dealings of this Government with other states have been and should always be marked by frankness and sincerity, our purposes avowed, and our methods free from intrigue. This course has borne rich fruit in the past, and it is our duty as a nation to preserve the heritage of good repute which a century of right dealing with foreign governments has secured to us.

It is a matter of high significance, and no less of congratulation, that the first year of the second century of our constitutional existence finds, as honored guests within our borders, the representatives of all the independent states of North and South America met together in earnest conference touching the best methods of perpetuating and expanding the relations of mutual interest and friendliness existing among them. That the opportunity thus afforded for promoting closer international relations and the increased prosperity of the states represented will be used for the mutual good of all, I can not permit myself to doubt. Our people will await with interest and confidence the results to flow from so auspicious a meeting of allied and, in large part, identical interests.

The recommendation of this international conference of enlightened statesmen will doubtless have the considerate attention of Congress, and its co-operation in the removal of unnecessary barriers to beneficial intercourse between the nations of America. But while the commercial results, which it is hoped will follow this conference, are worthy of pursuit and of the great interest they have excited, it is believed that the crowning benefit will be found in the better securities which may be devised for the maintenance of peace among all American nations and the settlement of all contentions by methods that a Christian civilization can approve. While viewing with interest our national resources and products, the delegates will, I am sure, find a higher satisfaction in the evidences of unselfish friendship which everywhere attend their intercourse with our people.

Another international conference, having great possibilities for good, has lately assembled and is now in session in this capital. An invitation was extended by the Government, under the act of Congress of July 9, 1883, to all maritime nations to send delegates to confer touching the revision and amendment of the rules and regulations governing vessels at sea and to adopt a uniform system of marine signals. The response to this invitation has been very general and very cordial. Delegates from twenty-six nations are present in the conference, and they have entered upon their useful work with great zeal, and with an evident appreciation of its importance. So far as the agreement to be reached may require legislation to give it effect the co-operation of Congress is confidently relied upon.

It is an interesting, if not indeed an unprecedented fact, that the two international conferences have brought together here the accredited representatives of thirty-three nations.

Bolivia, Ecuador, and Honduras are now represented by resident envoys of the plenipotentiary grade. All the states of the American system now maintain diplomatic representation at this capital.

In this connection it may be noted that all the nations of the western hemisphere, with one exception, send to Washington envoys extraordinary and ministers plenipotentiary, being the highest grade accredited to this Government. The United States, on the contrary, sends envoys of lower grade to some of our sister republics. Our representative in Paraguay and Uruguay is a minister resident, while to Bolivia we send a minister resident and consul-general. In view of the importance of our relations with the states of the American system, our diplomatic agents in those countries should be of the uniform rank of envoy extraordinary and minister plenipotentiary. Certain missions were so elevated by the last Congress with

happy effect, and I recommend the completion of the reform thus begun, with the inclusion also of Hawaii and Hayti, in view of their relations to the American system of states.

I also recommend that timely provision be made for extending to Hawaii an invitation to be represented in the International Conference now sitting at this capital.

Our relations with China have the attentive consideration which their magnitude and interest demand. The failure of the treaty negotiated under the administration of my predecessor for the further and more complete restriction of Chinese labor immigration, and, with it, the legislation of the last session of Congress dependent thereon, leave some questions open which Congress should now approach in that wise and just spirit which should characterize the relations of two great and friendly powers. While our supreme interests demand the exclusion of a laboring element which experience has shown to be incompatible with our social life, all steps to compass this imperative need should be accompanied with a recognition of the claim of those strangers now lawfully among us to humane and just treatment.

The accession of the young Emperor of China marks, we may hope, an era of progress and prosperity for the great country over which he is called to rule.

The present state of affairs in respect to the Samoan Islands is encouraging. The conference which was held in this city in the summer of 1887 between the representatives of the United States, Germany, and Great Britain having been adjourned because of the persistent divergence of views which was developed in its deliberations, the subsequent course of events in the islands gave rise to questions of a serious character. On the 4th of February last the German minister at this capital, in behalf of his Government, proposed a resumption of the conference at Berlin. This proposition was accepted, as Congress, in February last, was informed.

Pursuant to the understanding thus reached, commissioners were appointed by me, by and with the advice and consent of the Senate, who proceeded to Berlin, where the conference was renewed. The deliberations extended through several weeks, and resulted in the conclusion of a treaty which will be submitted to the Senate for its approval. I trust that the efforts which have been made to effect an adjustment of this question will be productive of the permanent establishment of law and order in Samoa upon the basis of the maintenance of the rights and interests of the natives as well as of the treaty powers.

The questions which have arisen during the past few years between Great Britain and the United States are in abeyance or in course of amicable adjustment.

On the part of the Government of the Dominion of Canada an effort has been apparent during the season just ended to administer the laws and regulations applicable to the fisheries with as little occasion for friction as was possible, and the temperate representations of this Government in respect of cases of undue hardship or of harsh interpretations have been in most cases met with measures of transitory relief. It is trusted that the attainment of our just rights under existing treaties and in virtue of the concurrent legislation of the two contiguous countries will not be long deferred and that all existing cause of difference may be equitably adjusted.

I recommend that provision be made by an international agreement for visibly marking the water boundary between the United States and Canada in the narrow channels that join the Great Lakes. The conventional line therein traced by the Northwestern Boundary Survey years ago is not in all cases readily ascertainable for the settlement of jurisdictional questions.

A just and acceptable enlargement of the list of offenses for which extradition may be claimed and granted is most desirable between this country and Great Britain. The territory of neither should be-

come a secure harbor for the evil-doers of the other through any avoidable short-coming in this regard. A new treaty on this subject between the two powers has been recently negotiated, and will soon be laid before the Senate.

The importance of the commerce of Cuba and Porto Rico with the United States, their nearest and principal market, justifies the expectation that the existing relations may be beneficially expanded. The impediments resulting from varying dues on navigation and from the vexatious treatment of our vessels, on merely technical grounds of complaint in West India ports, should be removed.

The progress toward an adjustment of pending claims between the United States and Spain is not as rapid as could be desired.

Questions affecting American interests in connection with railways constructed and operated by our citizens in Peru have claimed the attention of this Government. It is urged that other governments, in pressing Peru to the payment of their claims, have disregarded the property rights of American citizens. The matter will be carefully investigated, with a view to securing a proper and equitable adjustment.

A similar issue is now pending with Portugal. The Delagoa Bay Railway in Africa was constructed under a concession by Portugal to an American citizen. When nearly completed the road was seized by the agents of the Portuguese Government. Formal protest has been made through our minister at Lisbon against this act, and no proper effort will be spared to secure proper relief.

In pursuance of the charter granted by Congress, and under the terms of its contract with the Government of Nicaragua, the Inter-oceanic Canal Company has begun the construction of the important waterway between the two oceans which its organization contemplates. Grave complications for a time seemed imminent, in view of a supposed conflict of jurisdiction between Nicaragua and Costa Rica in regard to the accessory privileges to be conceded by the latter republic toward the construction of works on the San Juan river, of which the right bank is Costa Rican territory. I am happy to learn that a friendly arrangement has been effected between the two nations. This Government has held itself ready to promote in every proper way the adjustment of all questions that might present obstacles to the completion of a work of such transcendent importance to the commerce of this country, and indeed to the commercial interests of the world.

The traditional good-feeling between this country and the French Republic has received additional testimony in the participation of our Government and people in the International Exposition held at Paris during the past summer. The success of our exhibitors has been gratifying. The report of the commission will be laid before Congress in due season.

This Government has accepted, under proper reserve as to its policy in foreign territories, the invitation of the Government of Belgium to take part in an International Congress which opened at Brussels on the 16th of November for the purpose of devising measures to promote the abolition of the slave trade in Africa and to prevent the shipment of slaves by sea. Our interest in the extinction of this crime against humanity in the regions where it yet survives has been increased by the results of emancipation within our own borders.

With Germany the most cordial relations continue. The questions arising from the return to the empire of Germans naturalized in this country are considered and disposed of in a temperate spirit, to the entire satisfaction of both governments.

It is a source of great satisfaction that the internal disturbances of the Republic of Hayti are at last happily ended, and that an apparently stable government has been constituted. It has been duly recognized by the United States.

A mixed commission is now in session in this capital for the settlement of long-standing claims against

the Republic of Venezuela, and it is hoped that a satisfactory conclusion will be speedily reached. This Government has not hesitated to express its earnest desire that the boundary dispute now pending between Great Britain and Venezuela may be adjusted amicably and in strict accordance with the historic title of the parties.

The advancement of the Empire of Japan has been evidenced by the recent promulgation of a new Constitution, containing valuable guarantees of liberty and providing for a responsible ministry to conduct the government.

It is earnestly recommended that our judicial rights and processes in Corea be established on a firm basis, by providing the machinery necessary to carry out treaty stipulations in that regard.

The friendliness of the Persian Government continues to be shown by its generous treatment of Americans engaged in missionary labors, and by the cordial disposition of the Shah to encourage the enterprise of our citizens in the development of Persian resources.

A discussion is in progress touching the jurisdictional treaty rights of the United States in Turkey. An earnest effort will be made to define those rights to the satisfaction of both governments.

Questions continue to arise in our relations with several countries in respect to the rights of naturalized citizens. Especially is this the case with France, Italy, Russia, and Turkey, and to a less extent with Switzerland. From time to time earnest efforts have been made to regulate this subject by conventions with those countries. An improper use of naturalization should not be permitted, but it is most important that those who have been duly naturalized should everywhere be accorded recognition of the rights pertaining to the citizenship of the country of their adoption. The appropriateness of special conventions for that purpose is recognized in treaties which this Government has concluded with a number of European States, and it is advisable that the difficulties which now arise in our relations with other countries on the same subject should be similarly adjusted.

The recent revolution in Brazil in favor of the establishment of a republican form of government is an event of great interest to the United States. Our minister at Rio de Janeiro was at once instructed to maintain friendly diplomatic relations with the Provisional Government, and the Brazilian representatives at this capital were instructed by the Provisional Government to continue their functions. Our friendly intercourse with Brazil has, therefore, suffered no interruption.

Our minister has been further instructed to extend on the part of this Government a formal and cordial recognition of the new republic as soon as the majority of the people of Brazil shall have signified their assent to its establishment and maintenance.

Within our own borders a general condition of prosperity prevails. The harvests of the last summer were exceptionally abundant, and the trade conditions now prevailing seem to promise a successful season to the merchant and the manufacturer, and general employment to our working people.

The report of the Secretary of the Treasury for the fiscal year ending June 30, 1899, has been prepared, and will be presented to Congress. It presents with clearness the fiscal operations of the Government, and I avail myself of it to obtain some facts for use here.

The aggregate receipts from all sources for the year were \$387,050,058.84, derived as follows:

From customs	\$229,882,711 69
From internal revenue	180,881,518 92
From miscellaneous sources	82,335,803 23

The ordinary expenditures for the same period were \$351,996,615.60, and the total expenditures, including the sinking fund, were \$329,579,929.25. The excess of receipts over expenditures was, after providing for the sinking fund, \$57,470,129.59.

For the current fiscal year, the total revenues, actual and estimated, are \$385,000,000, and the ordinary expenditures, actual and estimated, are \$293,000,000, making, with the sinking fund, a total expenditure of \$341,321,116.99, leaving an estimated surplus of \$43,678,883.01.

During the fiscal year there was applied to the purchase of bonds, in addition to those for the sinking fund, \$90,456,172.35, and during the first quarter of the current year the sum of \$37,838,937.77, all of which were credited to the sinking fund. The revenues for the fiscal year ending June 30, 1891, are estimated by the Treasury Department at \$385,000,000, and the expenditures for the same period, including the sinking fund, at \$341,430,477.70. This shows an estimated surplus for that year of \$43,569,522.30, which is more likely to be increased than reduced when the actual transactions are written up.

The existence of so large an actual and anticipated surplus should have the immediate attention of Congress, with a view to reducing the receipts of the Treasury to the needs of the Government as closely as may be. The collection of moneys not needed for public uses imposes an unnecessary burden upon our people, and the presence of so large a surplus in the public vaults is a disturbing element in the conduct of private business. It has called into use expedients for putting it into circulation of very questionable propriety. We should not collect revenue for the purpose of anticipating our bonds beyond the requirements of the sinking fund, but any unappropriated surplus in the Treasury should be so used, as there is no other lawful way of returning the money to circulation, and the profit realized by the Government offers a substantial advantage.

The loaning of public funds to the banks without interest, upon the security of Government bonds, I regard as an unauthorized and dangerous expedient. It results in a temporary and unnatural increase of the banking capital of favored localities and compels a cautious and gradual recall of the deposits to avoid injury to the commercial interests. It is not to be expected that the banks having these deposits will sell their bonds to the Treasury so long as the present highly beneficial arrangement is continued. They now practically get interest both upon the bonds and their proceeds. No further use should be made of this method of getting the surplus into circulation, and the deposits now outstanding should be gradually withdrawn and applied to the purchase of bonds. It is fortunate that such a use can be made of the existing surplus, and for some time to come of any casual surplus that may exist after Congress has taken the necessary steps for a reduction of the revenue. Such legislation should be promptly, but very considerately, enacted.

I recommend a revision of our tariff law, both in its administrative features and in the schedules. The need of the former is generally conceded, and an agreement upon the evils and inconveniences to be remedied and the best methods for their correction will probably not be difficult. Uniformity of valuation at all our ports is essential, and effective measures should be taken to secure it. It is equally desirable that questions affecting rates and classifications should be promptly decided.

The preparation of a new schedule of customs duties is a matter of great delicacy because of its direct effect upon the business of the country, and of great difficulty by reason of the wide divergence of opinion as to the objects that may properly be promoted by such legislation. Some disturbance of business may perhaps result from the consideration of this subject by Congress, but this temporary ill effect will be reduced to the minimum by prompt action and by the assurance which the country already enjoys that any necessary changes will be so made as not to impair the just and reasonable protection of our home industries. The inequalities of the law should be adjusted, but the protective principle should be maintained and fairly applied to the prod-

ucts of our farms as well as of our shops. These duties necessarily have relation to other things besides the public revenues. We can not limit their effects by fixing our eyes on the public Treasury alone. They have a direct relation to home production, to work, to wages, and to the commercial independence of our country, and the wise and patriotic legislator should enlarge the field of his vision to include all of these.

The necessary reduction in our public revenues can, I am sure, be made without making the smaller burden more onerous than the larger by reason of the disabilities and limitations which the process of reduction puts upon both capital and labor. The free list can very safely be extended by placing thereon articles that do not offer injurious competition to such domestic products as our home labor can supply. The removal of the internal tax upon tobacco would relieve an important agricultural product from a burden which was imposed only because our revenue from customs duties was insufficient for the public needs. If safe provision against fraud can be devised, the removal of the tax upon spirits used in the arts and in manufactures would also offer an unobjectionable method of reducing the surplus.

A table presented by the Secretary of the Treasury, showing the amount of money of all kinds in circulation each year from 1873 to the present time is of interest. It appears that the amount of national bank notes in circulation has decreased during that period \$114,109,729, of which \$97,799,229 is chargeable to the last year. The withdrawal of bank circulation will necessarily continue under existing conditions. It is probable that the adoption of the suggestions made by the Comptroller of the Currency, namely, that the minimum deposit of bonds for the establishment of banks be reduced, and that an issue of notes to the par value of the bonds be allowed, would help to maintain the bank circulation. But while this withdrawal of bank notes has been going on there has been a large increase in the amount of gold and silver coin in circulation and in the issues of gold and silver certificates.

The total amount of money of all kinds in circulation on March 1, 1878, was \$805,793,807, while on Oct. 1, 1889, the total was \$1,405,018,000. There was an increase of \$293,417,552 in gold coin, of \$57,554,100 in standard silver dollars, of \$72,311,249 in gold certificates, of \$276,619,715 in silver certificates, and of \$14,073,787 in United States notes, making a total of \$713,976,403. There was during the same period a decrease of \$114,109,729 in bank circulation, and of \$642,481 in subsidiary silver. The net increase was \$599,224,193. The circulation per capita has increased about \$5 during the time covered by the table referred to.

The total coinage of silver dollars was, on Nov. 1, 1889, \$343,638,001, of which \$283,539,521 were in the Treasury vaults and \$60,098,480 were in circulation. Of the amount in the vaults, \$277,319,944 were represented by outstanding silver certificates, leaving \$6,219,577 not in circulation and not represented by certificates.

The law requiring the purchase by the Treasury of two million dollars' worth of silver bullion each month, to be coined into silver dollars of 412½ grains, has been observed by the department; but neither the present Secretary nor any of his predecessors has deemed it safe to exercise the discretion given by law to increase the monthly purchases to \$4,000,000. When the law was enacted (Feb. 28, 1878) the price of silver in the market was \$1.20½ per ounce, making the bullion value of the dollar 93 cents. Since that time the price has fallen as low as 91-2 cents per ounce, reducing the bullion value of the dollar to 70-6 cents. Within the last few months the market price has somewhat advanced, and on the 1st day of November last the bullion value of the silver dollar was 72 cents.

The evil anticipations which have accompanied the coinage and use of the silver dollar have not been re-

alized. As a coin it has not had general use, and the public Treasury has been compelled to store it. But this is manifestly owing to the fact that its paper representative is more convenient. The general acceptance and use of the silver certificate show that silver has not been otherwise discredited. Some favorable conditions have contributed to maintain this practical equality, in their commercial use, between the gold and silver dollars. But some of these are trade conditions that statutory enactments do not control and of the continuance of which we can not be certain.

I think it is clear that if we should make the coinage of silver at the present ratio free we must expect that the difference in the bullion values of the gold and silver dollars will be taken account of in commercial transactions, and I fear the same result would follow any considerable increase of the present rate of coinage. Such a result would be discreditable to our financial management and disastrous to all business interests. We should not tread the dangerous edge of such a peril. And, indeed, nothing more harmful could happen to the silver interests. Any safe legislation upon this subject must secure the equality of the two coins in their commercial uses.

I have always been an advocate of the use of silver in our currency. We are large producers of that metal, and should not discredit it. To the plan which will be presented by the Secretary of the Treasury for the issuance of notes or certificates upon the deposit of silver bullion at its market value, I have been able to give only a hasty examination, owing to the press of other matters and to the fact that it has been so recently formulated. The details of such a law require careful consideration, but the general plan suggested by him seems to satisfy the purpose—to continue the use of silver in connection with our currency, and at the same time to obviate the danger of which I have spoken. At a later day I may communicate further with Congress upon this subject.

The enforcement of the Chinese exclusion act has been found to be very difficult on the northwestern frontier. Chinamen, landing at Victoria, find it easy to pass our border, owing to the impossibility, with the force at the command of the customs officers, of guarding so long an inland line. The Secretary of the Treasury has authorized the employment of additional officers who will be assigned to this duty, and every effort will be made to enforce the law. The Dominion exacts a head tax of \$50 for each Chinaman landed, and when these persons, in fraud of our law, cross into our territory and are apprehended, our officers do not know what to do with them, as the Dominion authorities will not suffer them to be sent back without a second payment of the tax. An effort will be made to reach an understanding that will remove this difficulty.

The proclamation required by section 3 of the act of March 2, 1889, relating to the killing of seals and other fur-bearing animals, was issued by me on the 21st day of March, and a revenue vessel was dispatched to enforce the laws and protect the interests of the United States. The establishment of a refuge station at Point Barrow, as directed by Congress, was successfully accomplished.

Judged by modern standards, we are practically without coast defenses. Many of the structures we have would enhance rather than diminish the perils of their garrisons if subjected to the fire of improved guns; and very few are so located as to give full effect to the greater range of such guns as we are now making for coast-defense uses. This general subject has had consideration in Congress for some years, and the appropriation for the construction of large rifled guns, made one year ago, was, I am sure, the expression of a purpose to provide suitable works in which these guns might be mounted. An appropriation now made for that purpose would not advance the completion of the works beyond our ability to supply them with fairly effective guns.

The security of our coast cities against foreign at-

tack should not rest altogether in the friendly disposition of other nations. There should be a second line wholly in our own keeping. I very urgently recommend an appropriation at this session for the construction of such works in our most exposed harbors.

I approve the suggestion of the Secretary of War that provision be made for encamping companies of the National Guard in our coast works for a specified time each year, and for their training in the use of heavy guns. His suggestion that an increase of the artillery force of the army is desirable is also in this connection commended to the consideration of Congress.

The improvement of our important rivers and harbors should be promoted by the necessary appropriations. Care should be taken that the Government is not committed to the prosecution of works not of public and general advantage, and that the relative usefulness of works of that class is not overlooked. So far as this work can ever be said to be completed, I do not doubt that the end would be sooner and more economically reached if fewer separate works were undertaken at the same time, and those selected for their greater general interest were more rapidly pushed to completion. A work once considerably begun should not be subjected to the risks and deterioration which interrupted or insufficient appropriations necessarily occasion.

The assault made by David S. Terry upon the person of Justice Field, of the Supreme Court of the United States, at Lathrop, Cal., in August last, and the killing of the assailant by a deputy United States marshal who had been deputed to accompany Justice Field and to protect him from anticipated violence at the hands of Terry, in connection with the legal proceedings which have followed, suggest questions which, in my judgment, are worthy of the attention of Congress.

I recommend that more definite provision be made by law, not only for the protection of Federal officers, but for a full trial of such cases in the United States courts. In recommending such legislation I do not at all impeach either the general adequacy of the provision made by the State laws for the protection of all citizens or the general good disposition of those charged with the execution of such laws to give protection to the officers of the United States. The duty of protecting its officers, as such, and of punishing those who assault them on account of their official acts, should not be devolved expressly or by acquiescence upon the local authorities.

Events which have been brought to my attention, happening in other parts of the country, have also suggested the propriety of extending by legislation fuller protection to those who may be called as witnesses in the courts of the United States. The law compels those who are supposed to have knowledge of public offenses to attend upon our courts and grand juries and to give evidence. There is a manifest resulting duty that these witnesses shall be protected from injury on account of their testimony. The investigations of criminal offenses are often rendered futile, and the punishment of crime impossible, by the intimidation of witnesses.

The necessity of providing some more speedy method for disposing of the cases which now come for final adjudication to the Supreme Court becomes every year more apparent and urgent. The plan of providing some intermediate courts, having final appellate jurisdiction of certain classes of questions and cases, has, I think, received a more general approval from the bench and bar of the country than any other. Without attempting to discuss details, I recommend that provision be made for the establishment of such courts.

The salaries of the judges of the district courts in many of the districts are, in my judgment, inadequate.

I recommend that all such salaries now below \$5,000 per annum be increased to that amount. It is quite true that the amount of labor performed by these judges is very unequal, but as they can not properly engage in other pursuits to supplement their incomes,

the salary should be such in all cases as to provide an independent and comfortable support.

Earnest attention should be given by Congress to a consideration of the question how far the restraint of those combinations of capital commonly called "trusts" is matter of Federal jurisdiction. When organized, as they often are, to crush out all healthy competition and to monopolize the production or sale of an article of commerce and general necessity, they are dangerous conspiracies against the public good, and should be made the subject of prohibitory and even penal legislation.

The subject of an international copyright has been frequently commended to the attention of Congress by my predecessors. The enactment of such a law would be eminently wise and just.

Our naturalization laws should be so revised as to make the inquiry into the moral character and good disposition toward our Government of the persons applying for citizenship more thorough. This can only be done by taking fuller control of the examination, by fixing the times for hearing such applications, and by requiring the presence of some one who shall represent the Government in the inquiry. Those who are the avowed enemies of social order, or who come to our shores to swell the injurious influence and to extend the evil practices of any association that defies our laws, should not only be denied citizenship but a domicile.

The enactment of a national bankrupt law of a character to be a permanent part of our general legislation is desirable. It should be simple in its methods and inexpensive in its administration.

The report of the Postmaster-General not only exhibits the operations of the department for the last fiscal year, but contains many valuable suggestions for the improvement and extension of the service, which are commended to your attention. No other branch of the Government has so close a contact with the daily life of the people. Almost every one uses the service it offers, and every hour gained in the transmission of the great commercial mails has an actual and possible value that only those engaged in trade can understand.

The saving of one day in the transmission of the mails between New York and San Francisco, which has recently been accomplished, is an incident worthy of mention.

The plan suggested of a supervision of the post-offices in separate districts that shall involve instruction and suggestion and a rating of the efficiency of the post-masters would, I have no doubt, greatly improve the service.

A pressing necessity exists for the erection of a building for the joint use of the department and of the city post-office. The department was partially relieved by renting outside quarters for a part of its force, but it is again overcrowded. The building used by the city office never was fit for the purpose, and is now inadequate and unwholesome.

The unsatisfactory condition of the law relating to the transmission through the mails of lottery advertisements and remittances is clearly stated by the Postmaster-General, and his suggestion as to amendments should have your favorable consideration.

The report of the Secretary of the Navy shows a reorganization of the bureaus of the department that will, I do not doubt, promote the efficiency of each.

In general, satisfactory progress has been made in the construction of the new ship of war authorized by Congress. The first vessel of the new navy, the "Dolphin," was subjected to very severe trial tests and to very much adverse criticism. But it is gratifying to be able to state that a cruise around the world, from which she has recently returned, has demonstrated that she is a first-class vessel of her rate.

The report of the Secretary shows that while the effective force of the navy is rapidly increasing, by reason of the improved build and armament of the new ships, the number of our ships fit for sea duty grows very slowly. We had, on the 4th of March last, thirty-seven serviceable ships, and though four have

since been added to the list, the total has not been increased, because in the mean time four have been lost or condemned. Twenty-six additional vessels have been authorized and appropriated for, but it is probable that when they are completed our list will only be increased to forty-two, a gain of five. The old wooden ships are disappearing almost as fast as the new vessels are added. These facts carry their own argument. One of the new ships may, in fighting strength, be equal to two of the old, but it can not do the cruising duty of two. It is important, therefore, that we should have a more rapid increase in the number of serviceable ships. I concur in the recommendation of the Secretary that the construction of eight armored ships, three gunboats, and five torpedo boats be authorized.

An appalling calamity befell three of our naval vessels on duty at the Samoan Islands, in the harbor of Apia, in March last, involving the loss of four officers and forty-seven seamen, of two vessels, the "Trenton" and the "Vandalia," and the disabling of a third, the "Nipsic." Three vessels of the German navy, also in the harbor, shared with our ships the force of the hurricane and suffered even more heavily. While mourning the brave officers and men who died, facing with high resolve perils greater than those of battle, it is most gratifying to state that the credit of the American navy for seamanship, courage, and generosity was magnificently sustained in the storm-beaten harbor of Apia.

The report of the Secretary of the Interior exhibits the transactions of the Government with the Indian tribes. Substantial progress has been made in the education of the children of school age and in the allotment of lands to adult Indians. It is to be regretted that the policy of breaking up the tribal relation and of dealing with the Indian as an individual did not appear earlier in our legislation. Large reservations, held in common, and the maintenance of the authority of the chiefs and head-men have deprived the individual of every incentive to the exercise of thrift, and the annuity has contributed an affirmative impulse toward a state of confirmed pauperism.

Our treaty stipulations should be observed with fidelity, and our legislation should be highly considerate of the best interests of an ignorant and helpless people. The reservations are now generally surrounded by white settlements. We can no longer push the Indian back into the wilderness, and it remains only, by every suitable agency, to push him upward into the estate of a self-supporting and responsible citizen. For the adult, the first step is to locate him upon a farm; and for the child, to place him in a school.

School attendance should be promoted by every moral agency, and those failing should be compelled. The national schools for Indians have been very successful, and should be multiplied, and, as far as possible, should be so organized and conducted as to facilitate the transfer of the schools to the States or Territories in which they are located when the Indians in a neighborhood have accepted citizenship and have become otherwise fitted for such a transfer. This condition of things will be attained slowly, but it will be hastened by keeping it in mind. And in the mean time that co-operation between the Government and the mission schools which has wrought much good should be cordially and impartially maintained.

The last Congress enacted two distinct laws relating to negotiations with the Sioux Indians of Dakota for a relinquishment of a portion of their lands to the United States and for dividing the remainder into separate reservations. Both were approved on the same day—March 2. The one submitted to the Indians a specific proposition; the other (section 3 of the Indian appropriation act) authorized the President to appoint three commissioners to negotiate with these Indians for the accomplishment of the same general purpose, and required that any agreements made should be submitted to Congress for ratification.

On the 16th day of April last I appointed Hon. Charles Foster, of Ohio, Hon. William Warner, of Missouri, and Maj.-Gen. George Crook, of the United

States Army, commissioners under the last-named law. They were, however, authorized and directed, first, to submit to the Indians the definite proposition made to them by the act first mentioned, and only in the event of a failure to secure the assent of the requisite number to that proposition to open negotiations for modified terms under the other act. The work of the commission was prolonged and arduous, but the assent of the requisite number was, it is understood, finally obtained to the proposition made by Congress, though the report of the commission has not yet been submitted. In view of these facts, I shall not, as at present advised, deem it necessary to submit the agreement to Congress for ratification, but it will in due course be submitted for information. This agreement releases to the United States about nine million acres of land.

The commission provided for by section 14 of the Indian appropriation bill to negotiate with the Cherokee Indians and all other Indians owning or claiming lands lying west of the ninety-sixth degree of longitude, for the cession to the United States of all such lands, was constituted by the appointment of Hon. Lucius Fairchild, of Wisconsin, Hon. John F. Hartman, of Pennsylvania, and Hon. Alfred M. Wilson, of Arkansas, and organized on June 29 last. Their first conference with the representatives of the Cherokees was held at Tahlequah, July 29, with no definite results. Gen. John F. Hartman, of Pennsylvania, was prevented by ill-health from taking part in the conference. His death, which occurred recently, is justly and generally lamented by a people he had served with conspicuous gallantry in war and with great fidelity in peace. The vacancy thus created was filled by the appointment of Hon. Warren G. Sayre of Indiana.

A second conference between the commission and the Cherokees was begun Nov. 6, but no results have yet been obtained, nor is it believed that a conclusion can be immediately expected. The cattle syndicate now occupying the lands for grazing purposes is clearly one of the agencies responsible for the obstruction of our negotiations with the Cherokees. The large body of agricultural lands constituting what is known as the "Cherokee Outlet" ought not to be, and indeed can not long be, held for grazing, and for the advantage of a few against the public interests and the best advantage of the Indians themselves. The United States has now under the treaties certain rights in these lands. These will not be used oppressively, but it can not be allowed that those who by suzerainty occupy these lands shall interpose to defeat the wise and the beneficent purposes of the Government. I can not but believe that the advantageous character of the offer made by the United States to the Cherokee nation, for a full release of these lands, as compared with other suggestions now made to them, will yet obtain for it a favorable consideration.

Under the agreement made between the United States and the Muscogee (or Creek) nation of Indians on the 19th day of January, 1889, an absolute title was secured by the United States to about three and a half million acres of land. Section 12 of the general Indian appropriation act, approved March 2, 1889, made provision for the purchase by the United States from the Seminole tribe of a certain portion of their lands. The delegates of the Seminole nation, having first duly delegated to me their power to act in that behalf, delivered a proper release and conveyance to the United States of all the lands mentioned in the act, which was accepted by me and certified to be in compliance with the statute.

By the terms of both the acts referred to all the lands so purchased were declared to be a part of the public domain, and open to settlement under the homestead law. But of the lands embraced in these purchases, being in the aggregate about five and a half million acres, three and a half million acres had already, under the terms of the treaty of 1866, been acquired by the United States for the purpose of set-

ting other Indian tribes thereon, and had been appropriated to that purpose. The land remaining and available for settlement consisted of 1,887,796 acres, surrounded on all sides by lands in the occupancy of Indian tribes. Congress had provided no civil government for the people who were to be invited by my proclamation to settle upon these lands, except as the new court, which had been established at Muscogee, or the United States courts in some of the adjoining States, had power to enforce the general laws of the United States.

In this condition of things I was quite reluctant to open the lands to settlement. But in view of the fact that several thousand persons, many of them with their families, had gathered upon the borders of the Indian Territory, with a view to securing homesteads on the ceded lands, and that delay would involve them in much loss and suffering, I did, on the 23d day of March last, issue a proclamation declaring that the lands therein described would be open to settlement under the provisions of the law on the 23d day of April following, at 12 o'clock noon. Two land districts had been established, and the offices were open for the transaction of business when the appointed time arrived.

It is much to the credit of the settlers that they very generally observe the limitation as to the time when they might enter the Territory. Care will be taken that those who entered in violation of the law do not secure the advantage they unfairly sought. There was a good deal of apprehension that the strife for locations would result in much violence and bloodshed, but happily these anticipations were not realized. It is estimated that there are now in this Territory about sixty thousand people; and several considerable towns have sprung up, for which temporary municipal governments have been organized. Guthrie is said to have now a population of almost eight thousand. Eleven schools and nine churches have been established, and three daily and five weekly newspapers are published in this city, whose charter and ordinances have only the sanction of the voluntary acquiescence of the people from day to day.

Oklahoma City has a population of about five thousand, and is proportionately as well provided as Guthrie with churches, schools, and newspapers. Other towns and villages having populations of from one hundred to a thousand are scattered over the Territory.

In order to secure the peace of this new community in the absence of civil government, I directed General Merritt, commanding the Department of the Missouri, to act in conjunction with the marshals of the United States to preserve the peace, and upon their requisition to use the troops to aid them in executing warrants and in quieting any riots or breaches of the peace that might occur. He was further directed to use his influence to promote good order and to avoid any conflict between or with the settlers. Believing that the introduction and sale of liquors were no legal restraints or regulations existed would endanger the public peace, and in view of the fact that such liquors must first be introduced into the Indian reservations before reaching the white settlements, I further directed the general commanding to enforce the laws relating to the introduction of ardent spirits into the Indian country.

The presence of the troops has given a sense of security to the well-disposed citizens, and has tended to restrain the lawless. In one instance the officer in immediate command of the troops went further than I deemed justifiable in supporting the *de facto* municipal government of Guthrie, and he was so informed and directed to limit the interference of the military to the support of the marshals on the lines indicated in the original order. I very urgently recommend that Congress at once provide a Territorial government for these people. Serious questions, which may at any time lead to violent outbreaks, are awaiting the institution of courts for their peaceful adjustment. The American genius for self-government has been

well illustrated in Oklahoma, but it is neither safe nor wise to leave these people longer to the expedients which have temporarily served them.

Provision should be made for the acquisition of title to town lots in the towns now established in Alaska, for locating town sites, and for the establishment of municipal governments. Only the mining laws have been extended to that Territory, and no other form of title to lands can now be obtained. The general land laws were framed with reference to the disposition of agricultural lands, and it is doubtful if their operation in Alaska would be beneficial.

We have fortunately not extended to Alaska the mistaken policy of establishing reservations for the Indian tribes, and can deal with them from the beginning as individuals with, I am sure, better results. But any disposition of the public lands and any regulations relating to timber and to the fisheries should have a kindly regard to their interests. Having no power to levy taxes, the people of Alaska are wholly dependent upon the General Government to whose revenues the seal fisheries make a large annual contribution. An appropriation for education should neither be overlooked nor stinted.

The smallness of the population and the great distances between the settlements offer serious obstacles to the establishment of the usual Territorial form of government. Perhaps the organization of several subdistricts with a small municipal council of limited powers for each, would be safe and useful.

Attention is called in this connection to the suggestions of the Secretary of the Treasury relating to the establishment of another port of entry in Alaska, and of other needed customs, facilities, and regulations.

In the administration of the land laws the policy of facilitating in every proper way the adjustment of the honest claims of individual settlers upon the public lands has been pursued. The number of pending cases had, during the preceding administration, been greatly increased under the operation of orders for a time suspending final action in a large part of the cases originating in the West and Northwest, and by the subsequent use of unusual methods of examination. Only those who are familiar with the conditions under which our agricultural lands have been settled can appreciate the serious and often fatal consequences to the settler of a policy that puts his title under suspicion, or delays the issuance of his patent. While care is taken to prevent and to expose fraud, it should not be imputed without reason.

The manifest purpose of the homestead and preemption laws was to promote the settlement of the public domain by persons having a *bona fide* intent to make a home upon the selected lands. Where this intent is well established and the requirements of the law have been substantially complied with, the claimant is entitled to a prompt and friendly consideration of his case. But where there is reason to believe that the claimant is the mere agent of another, who is seeking to evade a law intended to promote small holdings, and to secure by fraudulent methods large tracts of timber and other lands, both principal and agent should not only be thwarted in their fraudulent purpose, but should be made to feel the full penalties of our criminal statutes. The laws should be so administered as not to confound these two classes and to visit penalties only upon the latter.

The unsettled state of the titles to large bodies of lands in the Territories of New Mexico and Arizona has greatly retarded the development of those Territories. Provision should be made by law for the prompt trial and final adjustment, before a judicial tribunal or commission, of all claims based upon Mexican grants. It is not just to an intelligent and enterprising people that their peace should be disturbed and their prosperity retarded by these old contentions. I express the hope that differences of opinion as to methods may yield to the urgency of the case.

The law now provides a pension for every soldier and sailor who was mustered into the service of the United States during the civil war and is now suffer-

ing from wounds or disease having an origin in the service and in the line of duty. Two of the three necessary facts, namely muster and disability, are usually susceptible of easy proof; but the third, origin in the service, is often difficult and in many deserving cases impossible to establish. That very many of those who endured the hardships of our most bloody and arduous campaigns are now disabled from diseases that had a real but not traceable origin in the service, I do not doubt. Besides these there is another class composed of men many of whom served an enlistment of three full years, and of re-enlisted veterans who added a fourth year of service, who escaped the casualties of battle and the assaults of disease, who were always ready for any detail, who were in every battle line of their command, and were mustered out in sound health, and have since the close of the war, while fighting with the same indomitable and independent spirit the contests of civil life, been overcome by disease or casualty.

I am not unaware that the pension roll already involves a very large annual expenditure, neither am I deterred by that fact from recommending that Congress grant a pension to such honorably discharged soldiers and sailors of the civil war as, having rendered substantial service during the war, are now dependent upon their own labor for maintenance, and by disease or casualty are incapacitated from earning it. Many of the men who would be included in this form of relief are now dependent upon public aid, and it does not, in my judgment, consist with the national honor that they shall continue to subsist upon the local relief given indiscriminately to paupers instead of upon the special and generous provision of the nation they served so gallantly and unselfishly. Our people will, I am sure, very generally approve such legislation. And I am equally sure that the survivors of the Union army and navy will feel a grateful sense of relief when this worthy and suffering class of their comrades is fairly cared for.

There are some manifest inequalities in the existing law that should be remedied. To some of these the Secretary of the Interior has called attention.

It is gratifying to be able to state that by the adoption of new and better methods in the War Department the calls of the Pension Office for information as to the military and hospital records of pension claimants are now promptly answered, and the injurious and vexatious delays that have heretofore occurred are entirely avoided. This will greatly facilitate the adjustment of all pending claims.

The advent of four new States, South Dakota, North Dakota, Montana, and Washington, into the Union under the Constitution, in the same month, and the admission of their duly chosen representatives to our national Congress at the same session, is an event as unexampled as it is interesting.

The certification of the votes cast and of the Constitutions adopted in each of the States was filed with me as required by the eighth section of the act of Feb. 22, 1889, by the governors of said Territories, respectively. Having, after a careful examination, found that the several Constitutions and governments were republican in form and not repugnant to the Constitution of the United States, that all the provisions of the act of Congress had been complied with, and that a majority of the votes cast in each of said proposed States was in favor of the adoption of the Constitution submitted therein, I did so declare by a separate proclamation as to each; as to North Dakota and South Dakota on Saturday, Nov. 2; as to Montana on Friday, Nov. 8; and as to Washington on Monday, Nov. 11.

Each of these States has within its resources the development of which will employ the energies of, and yield a comfortable subsistence to a great population. The smallest of these new States, Washington, stands twelfth, and the largest, Montana, third, among the forty-two in area. The people of these States are already well-trained, intelligent, and patriotic American citizens, having common interests and

sympathies with those of the older States, and a common purpose to defend the integrity and uphold the honor of the nation.

The attention of the Interstate Commerce Commission has been called to the urgent need of Congressional legislation for the better protection of the lives and limbs of those engaged in operating the great interstate freight lines of the country, and especially of the yard-men and brakemen. A petition, signed by nearly ten thousand railway brakemen, was presented to the commission, asking that steps might be taken to bring about the use of automatic brakes and couplers on freight cars.

At a meeting of State railroad commissioners and their accredited representatives, held at Washington in March last, upon the invitation of the Interstate Commerce Commission, a resolution was unanimously adopted, urging the commission "to consider what can be done to prevent the loss of life and limb in coupling and uncoupling freight cars, and in handling the brakes of such cars." During the year ending June 30, 1888, over 2,000 railroad employes were killed in service, and more than 20,000 injured. It is competent, I think, for Congress to require uniformity in the construction of cars used in interstate commerce, and the use of improved safety appliances upon such trains. Time will be necessary to make the needed changes, but an earnest and intelligent beginning should be made at once. It is a reproach to our civilization that any class of American workmen should, in the pursuit of a necessary and useful vocation, be subjected to a peril of life and limb as great as that of a soldier in time of war.

The creation of an executive department, to be known as the Department of Agriculture, by the act of Feb. 9, last, was a wise and timely response to a request which had long been respectfully urged by the farmers of the country. But much remains to be done to perfect the organization of the department so that it may fairly realize the expectations which its creation excited. In this connection attention is called to the suggestions contained in the report of the Secretary, which is herewith submitted. The need of a law officer for the department, such as is provided for the other executive departments, is manifest. The failure of the last Congress to make the usual provision for the publication of the annual report should be promptly remedied. The public interest in the report and its value to the farming community I am sure will not be diminished under the new organization of the department.

I recommend that the Weather Service be separated from the War Department and established as a bureau in the Department of Agriculture. This will involve an entire reorganization both of the Weather Bureau and of the Signal Corps, making of the first a purely civil organization and of the other a purely military staff corps. The report of the chief signal officer shows that the work of the corps on its military side has been deteriorating.

The interests of the people of the District of Columbia should not be lost sight of in the pressure for consideration of measures affecting the whole country. Having no legislature of its own, either municipal or general, its people must look to Congress for the regulation of all those concerns that in the States are the subject of local control. Our whole people have an interest that the national capital should be made attractive and beautiful, and above all that its reputation for social order should be well maintained. The laws regulating the sale of intoxicating drinks in the District should be revised with a view to bringing the traffic under stringent limitations and control.

In execution of the power conferred upon me by the act making appropriations for the expenses of the District of Columbia for the year ending June 30, 1890, I did, on the 17th day of August last, appoint Rudolph Hering, of New York, Samuel M. Gray, of Rhode Island, and Frederick P. Stearns, of Massachusetts, three eminent sanitary engineers, to examine and report upon the system of sewerage existing in the Dis-

trict of Columbia. Their report, which is not yet completed, will be in due course submitted to Congress.

The report of the commissioners of the District is herewith transmitted, and the attention of Congress is called to the suggestions contained therein.

The proposition to observe the four hundredth anniversary of the discovery of America by the opening of a world's fair or exposition in some one of our great cities will be presented for the consideration of Congress. The value and interest of such an exposition may well claim the promotion of the General Government.

On the 4th of March last the Civil Service Commission had but a single member. The vacancies were filled on the 7th day of May, and since then the commissioners have been industriously, though with an inadequate force, engaged in executing the law. They were assured by me that a cordial support would be given them in the faithful and impartial enforcement of the statute and of the rules and regulations adopted in aid of it.

Heretofore the book of eligibles has been closed to every one, except as certifications were made upon the requisition of the appointing officers. This secrecy was the source of much suspicion, and of many charges of favoritism in the administration of the law. What is secret is always suspected; what is open can be judged. The commission, with the full approval of all its members, has now opened the list of eligibles to the public. The eligible lists for the classified post-offices and custom houses are now publicly posted in the respective offices, as are also the certifications for appointments. The purpose of the civil-service law was absolutely to exclude any other consideration in connection with appointments under it than that of merit as tested by the examinations. The business proceeds upon the theory that both the examining boards and the appointing officers are absolutely ignorant as to the political views and associations of all persons on the civil-service lists. It is not too much to say, however, that some recent congressional investigations have somewhat shaken public confidence in the impartiality of the selections for appointment.

The reform of the civil service will make no safe or satisfactory advance until the present law and its equal administration are well established in the confidence of the people. It will be my pleasure, as it is my duty, to see that the law is executed with firmness and impartiality. If some of its provisions have been fraudulently evaded by appointing officers, our resentment should not suggest the repeal of the law, but reform in its administration. We should have one view of the matter, and hold it with a sincerity that is not affected by the consideration that the party to which we belong is for the time in power.

My predecessor, on the 4th day of January, 1889, by an Executive order to take effect March 15, brought the railway mail service under the operation of the civil-service law. Provision was made that the order should take effect sooner in any State where an eligible list was sooner obtained. On the 11th day of March, Mr. Lyman, then the only member of the commission, reported to me in writing that it would not be possible to have the list of eligibles ready before May 1, and requested that the taking effect of the order be postponed until that time, which was done, subject to the same provision contained in the original order as to States in which an eligible list was sooner obtained.

As a result of the revision of the rules of the new classification and of the inclusion of the railway mail service, the work of the commission has been greatly increased, and the present clerical force is found to be inadequate. I recommend that the additional clerks asked by the commission be appropriated for.

The duty of appointment is devolved by the Constitution or by the law, and the appointing officers are properly held to a high responsibility in its exercise. The growth of the country and the consequent increase of the civil list have magnified this function of the Executive disproportionately. It can not be de-

nied, however, that the labor connected with this necessary work is increased, often to the point of actual distress, by the sudden and excessive demands that are made upon an incoming Administration for removals and appointments. But, on the other hand, it is not true that incumbency is a conclusive argument for a continuance in office. Impartiality, moderation, fidelity to public duty, and a good attainment in the discharge of it must be added before the argument is complete. When those holding administrative offices so conduct themselves as to convince just political opponents that no party consideration or bias affects in any way the discharge of their public duties we can more easily stay the demand for removals.

I am satisfied that both in and out of the classified service great benefit would accrue from the adoption of some system by which the officer would receive the distinction and benefit that in all private employments comes from exceptional faithfulness and efficiency in the performance of duty.

I have suggested to the heads of the executive departments that they consider whether a record might not be kept in each bureau of all those elements that are covered by the terms "faithfulness" and "efficiency," and a rating made showing the relative merits of the clerks of each class, this rating to be regarded as a test of merit in making promotions.

I have also suggested to the Postmaster-General that he adopt some plan by which he can, upon the basis of the reports to the department and of frequent inspections, indicate the relative merit of postmasters of each class. They will be appropriately indicated in the official register and in the report of the department. That a great stimulus would thus be given to the whole service I do not doubt, and such a record would be the best defense against inconsiderate removals from office.

The interest of the General Government in the education of the people found an early expression not only in the thoughtful and sometimes warning utterance of our ablest statesmen, but in liberal appropriations from the common resources for the support of education in the new States. No one will deny that it is of the gravest national concern that those who hold the ultimate control of all public affairs should have the necessary intelligence wisely to direct and determine them. National aid to education has heretofore taken the form of land grants, and in that form the constitutional power of Congress to promote the education of the people is not seriously questioned. I do not think it can be successfully questioned when the form is changed to that of a direct grant of money from the public Treasury.

Such aid should be, as it always has been, suggested by some exceptional conditions. The sudden emancipation of the slaves of the South, the bestowal of the suffrage, which soon followed, and the impairment of the ability of the States where these new citizens were chiefly found to adequately provide educational facilities presented not only exceptional but unexampled conditions. That the situation has been much ameliorated there is no doubt. The ability and interest of the States have happily increased.

But a great work remains to be done, and I think the General Government should lend its aid. As the suggestion of a national grant in aid of education grows chiefly out of the condition and needs of the emancipated slave and his descendants, the relief should, as far as possible, while necessarily proceeding upon some general lines, be applied to the need that suggested it. It is essential, if much good is to be accomplished, that the sympathy and active interest of the people of the States should be enlisted, and that the methods adopted should be such as to stimulate and not to supplant local taxation for school purposes.

As one Congress can not bind a succeeding one in such a case, and as the effort must, in some degree, be experimental, I recommend that any appropriation made for this purpose be so limited in annual amount and as to the time over which it is to extend as will,

on the one hand, give the local school authorities opportunity to make the best use of the first year's allowance, and on the other deliver them from the temptation to unduly postpone the assumption of the whole burden themselves.

The colored people did not intrude themselves upon us; they were brought here in chains and held in the communities where they are now chiefly found by a cruel slave code. Happily for both races, they are now free. They have, from a standpoint of ignorance and poverty, which was our shame, not theirs, made remarkable advances in education and in the acquisition of property. They have, as a people, shown themselves to be friendly and faithful toward the white race, under temptations of tremendous strength. They have their representatives in the national cemeteries where a grateful Government has gathered the ashes of those who died in its defense. They have furnished to our regular army regiments that have won high praise from their commanding officers for courage and soldierly qualities, and for fidelity to the enlistment oath. In civil life they are now the toilers of their communities, making their full contribution to the widening streams of prosperity which these communities are receiving. Their sudden withdrawal would stop production and bring disorder into the household as well as the shop. Generally they do not desire to quit their homes, and their employers resent the interference of the emigration agents who seek to stimulate such a desire.

But notwithstanding all this, in many parts of our country where the colored population is large the people of that race are, by various devices, deprived of any effective exercise of their political rights and of many of their civil rights. The wrong does not expend itself upon those whose votes are suppressed. Every constituency in the Union is wronged.

It has been the hope of every patriot that a sense of justice and of respect for the law would work a gradual cure of these flagrant evils. Surely, no one supposes that the present can be accepted as a permanent condition. If it is said that these communities must work out this problem for themselves, we have a right to ask whether they are at work upon it. Do they suggest any solution? When and under what conditions is the black man to have a free ballot? When is he, in fact, to have those full civil rights which have so long been his in law? When is that equality of influence which our form of government was intended to secure to the electors to be restored? This generation should courageously face these grave questions, and not leave them as a heritage of woe to the next. The consultation should proceed with candor, calmness, and great patience; upon the lines of justice and humanity, not of prejudice and cruelty. No question in our country can be at rest except upon the firm basis of justice and of the law.

I earnestly invoke the attention of Congress to the consideration of such measures within its well-defined constitutional powers as will secure to all our people a free exercise of the right of suffrage and every other civil right under the Constitution and laws of the United States. No evil, however deplorable, can justify the assumption, either on the part of the Executive or of Congress, of powers not granted; but both will be highly blameable if all the powers granted are not wisely but firmly used to correct these evils. The power to take the whole direction and control of the election of members of the House of Representatives is clearly given to the General Government. A partial and qualified supervision of these elections is now provided for by law, and in my opinion this law may be so strengthened and extended as to secure, on the whole, better results than can be attained by a law taking all the processes of such election into Federal control. The colored man should be protected in all of his relations to the Federal Government, whether as litigant, juror, or witness in our courts, as an elector for members of Congress, or as a peaceful traveler upon our interstate railways.

There is nothing more justly humiliating to the na-

tional pride, and nothing more hurtful to the national prosperity, than the inferiority of our merchant marine compared with that of other nations whose general resources, wealth, and sea-coast lines do not suggest any reason for their supremacy on the sea. It was not always so, and our people are agreed, I think, that it shall not continue to be so. It is not possible in this communication to discuss the causes of the decay of our shipping interests, or the differing methods by which it is proposed to restore them. The statement of a few well-authenticated facts and some general suggestions as to legislation is all that is practicable. That the great steamship lines sailing under the flags of England, France, Germany, Spain, and Italy, and engaged in foreign commerce, were promoted, and have since been and now are liberally aided, by grants of public money, in one form or another, is generally known. That the American lines of steamships have been abandoned by us to an unequal contest with the aided lines of other nations until they have been withdrawn, or, in the few cases where they are still maintained, are subject to serious disadvantages, is matter of common knowledge.

The present situation is such that travelers and merchandise find Liverpool often a necessary intermediate port between New York and some of the South American capitals. The fact that some of the delegates from South American states to the conference of American nations now in session at Washington reached our shores by reversing that line of travel is very conclusive of the need of such a conference, and very suggestive as to the first and most necessary step in the direction of fuller and more beneficial intercourse with nations that are now our neighbors upon the lines of latitude, but not upon the lines of established commercial intercourse.

I recommend that such appropriations be made for ocean mail service in American steamships between our ports and those of Central and South America, China, Japan, and the important islands in both of the great oceans as will be liberally remunerative for the service rendered, and as will encourage the establishment and in some fair degree equalize the chances of American steamship lines in the competitions which they must meet. That the American states lying south of us will cordially co-operate in establishing and maintaining such lines of steamships to their principal ports I do not doubt.

We should also make provision for a naval reserve to consist of such merchant ships, of American construction and of a specified tonnage and speed, as the owners will consent to place at the use of the Government, in case of need, as armed cruisers. England has adopted this policy, and as a result can now, upon necessity, at once place upon her naval list some of the fastest steamships in the world. A proper supervision of the construction of such vessels would make their conversion into effective ships of war very easy.

I am an advocate of economy in our national expenditures, but it is a misuse of terms to make this word describe a policy that withholds an expenditure for the purpose of extending our foreign commerce. The enlargement and improvement of our merchant marine, the development of a sufficient body of trained American seamen, the promotion of rapid and regular mail communication between the ports of other countries and our own, and the adaptation of large and swift American merchant steamships to naval uses, in time of war, are public purposes of the highest concern. The enlarged participation of our people in the carrying trade, the new and increased markets that will be opened for the products of our farms and factories, and the fuller and better employment of our mechanics, which will result from a liberal promotion of our foreign commerce, insure the widest possible diffusion of benefit to all the States and to all our people. Everything is most propitious for the present inauguration of a liberal and progressive policy upon this subject, and we should enter upon it with promptness and decision.

The legislation which I have suggested, it is sincerely believed, will promote the peace and honor of our country and the prosperity and security of the people. I invoke the diligent and serious attention of Congress to the consideration of these and such other measures as may be presented, having the same great end in view.

BENJ. HARRISON.

EXECUTIVE MANSION,
WASHINGTON, Dec. 3, 1889.

The Rules.—One of the most important incidents of the first session of this Congress was the adoption by the House of Representatives of a code of rules differing in some essential points from any previously in force. It was designed to carry out the policy of the Speaker in refusing to entertain dilatory motions and in counting a quorum by recording members present but not voting. The contest over the adoption of the new rules was bitter; the change in the manner of conducting business was radical; the majority was enabled to push forward legislation in disregard of any attempts at dilatory action, but the minority was indignant over the innovation, and there were many scenes of disorder, discourtesy was frequent, and ill-feeling almost constant.

The Committee on Rules reported the new code Feb. 6, 1890, and on Feb. 10 the debate on its adoption began. Mr. Cannon, of Illinois, opened the discussion. Speaking for the Committee on Rules, he said:

"There were forty-seven rules in the old code of the rules of the last Congress. Of those rules, twenty-nine are recommended in the proposed code without any change whatever. The changes in the proposed code from the former rules of the House are found within eighteen rules, and in most of those eighteen the changes are merely formal, being, in the main, matters of rearrangement and changes of phraseology. So that the real material changes from the old code are comprised within four or five rules, and during the time that I shall occupy the floor I shall proceed to speak of these material matters.

"The Committee on Rules, in framing this code, has, to the best of its ability, prepared and reported a code of rules under which the will of the majority of the House shall be ascertained and expressed with accuracy, and with the utmost expedition consistent with fair and due debate and consideration.

"The committee believe that there should be radical changes touching the manner and the conduct of the business of the House, and the changes recommended in this report are so radical and so proper in our opinion that some gentlemen upon the other side have denounced them as 'revolutionary.'

"And the material matters about which there will be difference of opinion are, I take it, first, the provision which cuts up dilatory motions by the roots; second, the provision under which gentlemen present in the House of Representatives to prevent legislation shall (if they be in fact present) be counted as part of the quorum under the Constitution to aid legislation; third, the provision of the rules by which 100 shall constitute a quorum in the Committee of the Whole; and fourth, the daily order of business as contained in Rule XXIV of the proposed code.

"Now, first, as to dilatory motions, I desire to

read the report of the committee touching clause 10 of Rule XVI, which provides—

No dilatory motion shall be entertained by the Speaker.

"The report of the committee on this point is terse and direct, and covers the ground upon which this rule is recommended, and is as follows:

This clause is merely declaratory of parliamentary law. There are no words which can be framed which will limit members to the proper use of proper motions. Any motion the most conducive to progress in the public business or the most salutary for the comfort and convenience of members may be used for purposes of unjust and oppressive delay. The majority may be kept in session for a long time against reason and good sense, sometimes at the whim of a single member, and sometimes for a still longer period, at the will of one fifth who are misusing the provision of the Constitution for yeas and nays, by the aid of simple motions proper in themselves, but which are improperly used.

In the early days such prostitution of legitimate motions caused by anger, willfulness, and party zeal was not so much as named among legislators. To-day the abuse has grown to such proportions that the parliamentary law which governs American assemblies has found it necessary to keep pace with the evil, and to enable the majority, by the intervention of the presiding officer, to meet, by extraordinary means, the extraordinary abuse of power on the part, sometimes, of a very few members. Why should an assembly be kept from its work by motions made only to delay and to weary, even if the original design of the motion was salutary and sensible? Why should one fifth, even, be entitled to waste a half-hour of themselves and of four other fifths by a motion to adjourn, when the majority manifestly do not want to adjourn?

If the suggestion should be made that great power is here conferred, the answer is that as the approval of the House is the very breath in the nostrils of the Speaker, and as no body on earth is so jealous of its liberties and so impatient of control, we may be quite sure that no arbitrary interruption will take place, and, indeed, no interruption at all, until not only such misuse of proper motions is made clearly evident to the world, but also such action has taken place on the part of the House as will assure the Speaker of the support of the body whose wishes are his law. So that in the end it is a power exercised by the House through its properly constituted officer.

"Now, motions made in this House if used to forward legislation or for legitimate purposes are perfectly proper; but the moment motions proper in themselves, framed to assist the House in shaping legislation, are used, not for the purpose of consideration, but by a minority of one or more to hold the majority at bay and say that legislation shall not be had—that moment they are perverted from the legitimate use for which they are made, they become dilatory and would fall within the clause of this general rule.

"Gentlemen say this is 'tyrannical.' I deny it. But if it be tyrannical, then the 'tyranny' is exercised by the Speaker sustained by the majority of the House; and on the other hand the tyrannical minority that has controlled heretofore fails to control now. If I must choose between the 'tyranny' of a constitutional majority responsible to the people, or the 'tyranny' of an irresponsible minority of one, I will stand by the Constitution and our form of government, and so act as to let the majority rule.

"Now, Mr. Speaker, having said this much in reference to the rule prohibiting dilatory motions,

I pass on to discuss clause 3 of Rule XV in the proposed code. It is as follows:

8. On the demand of any member, or at the suggestion of the Speaker, before the second roll call is entered upon, the names of members [sufficient to make a quorum] in the hall of the House who do not vote shall be noted by the clerk and recorded in the journal, and reported to the Speaker with the names of the members voting, and be counted and announced in determining the presence of a quorum to do business.

"I call attention to the general parliamentary law, to adjudications of courts, both State and national, and the practice of general legislative assemblies in the several States in harmony with this rule.

"In the case of *Launtz vs. The People, ex rel.*, 113 Ill. Rept., the charter of the city of East St. Louis provides that 'a majority of the councilmen shall constitute a quorum to do business,' directs the council 'to determine the rules of its proceedings in conformity with the usual practice of deliberative bodies,' requires the council to 'keep a journal of its proceedings,' and that 'the yeas and nays, when demanded by any member present, shall be entered on the journal,' makes the mayor its presiding officer at city council meetings, and gives him the casting vote in the case of a tie and in no other.

"There were eight members in the body of the city council, of which five members constituted a quorum. On the 21st and 29th of May, the council being duly convened and all its members present, the motion was made to approve the defendant's bond, who was city treasurer, and one half of the aldermen (4) and the mayor voted to approve the bond, and the other half refused to vote.

"The court held that where a city council, consisting of eight aldermen and the mayor, are all present, or a quorum is present, and the election of an officer is properly proposed, whoever receives a majority of those who vote will be elected, although a majority of the members of the council may abstain from voting, or even may protest against the election. If they neglect to vote, it is their own fault, and such neglect shall not invalidate the act of the others, but be construed an assent to the determination of the majority of those who vote. The court further says: 'What the propriety of giving to a refusal to vote more potency than to a vote cast or allowing a gain from the violation of duty in making the refusal to vote of more effect in guiding the action of a body of which one is a member than voting?'

"The Supreme Court of Indiana, on the 10th of December, 1889, by unanimous opinion of the court in the case of the Rushville Gas Company *vs.* The City of Rushville and others, held that a resolution may be legally adopted by the vote of three of the six members of the city council where the other three are present and refuse to vote, as the vote of the majority of the quorum present is effective. The act authorizing the incorporation of the city of Rushville provided that a majority of the members of the council should constitute a quorum to do business. The same principle is involved and asserted in many cases.

"The doctrine is well established that 'those who are present and who help to make up a

quorum are expected to vote on any question, and their presence alone is sufficient, whether they actually vote or not.' If eighteen are present and nine vote, all in the affirmative, the measure is carried; the refusal of the other nine to vote being construed as a vote in the affirmative, so far as any construction is necessary.

"Now, gentlemen, we have counted a quorum in this House and entered their names on the Journal when they were present, through the Speaker, and the action of the Speaker has been ratified time and time again by the House; and in placing this rule in the code we do it as a matter of convenience, so that the Clerk may perform that duty under the eye of the Speaker and hand the names when the vote is handed to the Speaker. If gentlemen on that side want to go to the country upon the principle contained in this rule, we are ready to go and let the people choose between us. But as sure as we remain here and remain in a majority during this Congress, after due consideration and debate, a majority of the House of Representatives in the Fifty-first Congress will perform the function that the Constitution and the people make it their duty to perform.

"Now, sir, I come to speak of another rule proposed. Clause 2 of Rule XXIII provides in substance that a quorum in the Committee of the Whole shall consist of one hundred members.

"The reasons for making the quorum one hundred in the Committee of the Whole are so tersely and clearly given in the report of the Committee on Rules that I read the same, as follows:

This proposition is not a new one. For many years past, since the Thirtieth Congress, as the business of Congress has steadily increased, numerous propositions have been introduced in the House by members of long service looking to a reduction of the number necessary for a quorum in the Committee of the Whole, but the issue has never been presented to the House, owing to the fact that until recently it has never been confronted with the question of the want of a constitutional quorum through the refusal of the members present in the House to vote when their names were called in the House, or by division in the Committee of the Whole, thus breaking a quorum. It has never been made a political question and never should be. It goes directly to the bottom of the question of transacting business in the Committee of the Whole.

The Constitution provides, Article I, section 5, clause 1, that "a majority of each House shall constitute a quorum."

Neither House of Congress has ever had a rule fixing the number of a quorum in the Committee of the Whole, but from the First Congress to the present the practice has been to require the same number as in the House. The quorum of the House of Commons (consisting of 670 members) is 40. The Committee of the Whole, like a standing or select committee, has merely advisory powers and jurisdiction. Its action concludes nothing, and must be reported to the House, which approves or rejects, as it pleases. The same principle is true with respect to a quorum of standing and select committees. The House has never adopted a rule on this subject, and it has been a common practice for such committee, in arranging its days of meeting, order of business, etc., to fix the number of its quorum, which is less than a majority of its whole number. So far, therefore, as the constitutional or legal question is concerned, it has never been denied or questioned that it was entirely competent for the House to select any number it might please as a quorum of the Committee of the Whole. The only question involved is one purely of legislative expediency and propriety.

The reason that the issue has never heretofore been

presented is due entirely to the fact that until recent years members have not sat in their seats in the House and refused to vote when their names were called.

The House, for convenience, commits temporarily its jurisdiction to standing and select committees. It never parts with or permanently surrenders it. That jurisdiction so committed is returned to the House with the bill or proposition, and is again referred by the House for convenience to a Committee of the Whole. That the action of that committee is purely preliminary and advisory is demonstrated by the fact that no proposition pending therein can be laid upon the table; that the previous question can not be ordered therein; that a motion to reconsider can not be made; that the yeas and nays can not be taken, and, finally, that it can not adjourn.

The action of the Committee of the Whole being, therefore, purely advisory and concluding nothing, it is clear that this provision can not be in contravention of the Constitution—which is silent on the subject—and is in harmony with the well-recognized principles and practice of the English Parliament, the original sources of our parliamentary rules and practice and of modern constitutional governments.

"I pause merely long enough to say that many men have heretofore advocated this. That great parliamentarian, once a member of this House and afterward Vice-President, noted everywhere for his intelligence and his conservatism—William A. Wheeler—favored a provision similar to this. It was favored by many great commoners from time to time. A gentleman now dead, but formerly a member of this House, Mr. Garfield, introduced a resolution like this. Another gentleman, the gentleman from Iowa, Mr. Kasson, and the gentleman from Kentucky (Mr. McCreary), and another gentleman from Kentucky, not in this Congress, Mr. Willis, and other gentlemen from time to time have advocated this provision.

"Why, gentlemen, in the English Parliament of between six and seven hundred members in committee and in the House of Parliament 40 make a quorum.

"This proposition is to make the number one hundred a quorum in Committee of the Whole, and I want to say that, after sixteen years of service in this cause, I am satisfied that at the sessions of the Committee of the Whole there are not present one half of the time one hundred members. I have stood by this desk hour after hour in charge of appropriation and other bills, begging gentlemen not to make the point of 'no quorum.' I have time and again accepted amendments and bought the poor privilege of going on with the consideration of bills by accepting amendments upon condition that gentlemen would abstain from making the point of 'no quorum.' What does the Committee of the Whole do? It considers matters committed to it by the House, just as the Appropriations Committee, or as the Ways and Means Committee, considers matters committed to them. The Committee of the Whole consists of all the members of the House, if they want to be present, as they ought to be, and after that committee considers the business, then it reports it back with a recommendation, and then, for the first time, the House acts and accepts or rejects the recommendation of the Committee of the Whole.

"Now, Mr. Speaker, there are other desirable amendments in this code of rules. One is that the Committee of the Whole may determine, in the absence of a direction on the part of the

House, its own business. Gentlemen remember that under the rules of the last House the House would resolve itself into Committee of the Whole and there would be perhaps 500 bills upon the calendar. The House desired, say, to reach No 500. The only way that could be done, under the rules, was to go into committee; then somebody would object to bill No. 1, and then, under the rule, the committee would dissolve and go back into the House, and the House would determine whether bill No. 1 should be considered in Committee of the Whole, and that meant a yeas-and-nays vote, occupying an hour's time. Then the House would go back into Committee of the Whole and bill No. 2 would be reached, and somebody would object to that bill, and the committee would resolve itself back into the House again, and another hour's time would be consumed. So that to reach bill No. 500, if every point was insisted upon, five hundred hours would be required. Those were rules to expedite business. By this code we propose to give to the Committee of the Whole the right to determine what bill or what business it will consider.

"I now call attention to Rule XXIV.

"Order of Business, Rule XXIV in the proposed code, has been completely reconstructed as compared with Rule XXIV in the old code, and I can perhaps best explain it by reading the report of the committee covering the same:

Instead of the former rule requiring on Monday a call of States and Territories for the introduction of bills, etc., it has been proposed by clauses 1 and 3 of Rule XXII to refer all bills, etc., to appropriate committees, as required under Rule XI, and clause 5 of Rule XXI, by delivering them, in the case of private bills, to the clerk, and of public bills to the Speaker.

Corrections in case of erroneous reference have also been provided for, giving, in the opinion of the committee, all reasonable opportunity for legitimate motions touching the proper reference of a bill. The reference of joint and concurrent resolutions and memorials of State and Territorial Legislatures, and of resolutions of inquiry addressed to heads of executive departments has been provided for as previously stated.

Clause 2 of the former rule has been amended by the substitution of the following, namely:

Business on the Speaker's table shall be disposed of as follows:

Messages from the President, reports and communications from the heads of departments, and other communications addressed to the House, and bills, resolutions, and messages from the Senate shall be referred to appropriate committees without debate; but House bills with Senate amendments, except revenue and general appropriation bills, and river and harbor bills, may be at once disposed of as the House may determine; as may also Senate bills substantially the same as House bills already favorably reported on by a committee of the House on motion directed to be made by such committee.

The committee do not deem it necessary to say more with respect to the amendment of former clause 2 than that it affords an opportunity for the House to complete the legislation upon which it has already substantially passed. The amendments may be, and usually are, unimportant, and relate to the form rather than the substance of the bill. Under well-recognized principles, therefore, of legislative procedure, this enables the House either to conclude legislation or put the matter into conference.

It will be noticed, however, that if either the Senate amendment to the House bill or the original Senate bill is subject to a point of order under Rule XX

and clause 3 of Rule XXIII, it must have such reference and there receive its first consideration.

Clause 3 of the proposed code restores unfinished business to its ancient position and privilege, giving it the status to which it was entitled in the House for nearly a century, and to which, under the common parliamentary law and practice, it is legitimately entitled.

After unfinished business has been disposed of there comes a period for action by the House under direction of committees upon bills of a public character which do not appropriate money. This will facilitate the passage of much legislation of local value and some of national importance.

This period must be sixty minutes, and at the option of the House may be much longer. At the end of sixty minutes, however, the House has the option to go to the Committee of the Whole House on the state of the Union either generally or to consider a designated bill.

"Messrs. Carlisle and Randall make a minority report from the Committee on Rules, assigning reasons why they are unable to concur with the majority in the changes proposed in the rules of the House. In that report, in referring to Rule XXIV, they complain that under clause 4 no bill on the House calendar can be reached in the morning hour for consideration unless called up by the committee that reported it; and that under clause 5 of the same rule no individual member can make an original motion for the purpose of considering any particular bill on the Union calendar. They admit that a motion by the direction of a committee to designate a particular bill on the Union calendar for consideration is amendable on the motion of a member designating another bill.

"I call the attention of the House to the fact that the proposed clauses of new Rule XXIV confer much greater power upon the House, upon the committees of the House, and upon individual members, than did the rules of the Fiftieth Congress. Under the rules of the Fiftieth Congress no committee or individual member could submit a motion that the House designate a particular bill for consideration on either of the calendars. So the criticism of the minority is not just in this particular—I may say hardly ingenuous. The individual member by amendment may take the sense of the House in directing the Committee of the Whole to consider a particular bill under the new rule. Neither committee nor individual member under the old rule could in any case take the sense of the House by a motion to designate a particular bill for consideration.

"Nor is the criticism of the minority correct touching the operation of clauses 4 and 5 of Rule XXIV, covering business in the morning hour. Under clause 5, after one hour shall have been devoted to the consideration of bills called up by committees, it shall be in order, pending consideration or discussion thereof, to entertain a motion to go into Committee of the Whole on the state of the Union, or on direction of a committee a motion to consider a particular bill, to which motion one amendment designating another bill may be made. The clause then provides that if either motion be determined in the negative, it shall not be in order to make either motion again until the disposal of the matter under consideration or discussion.

"The effect of this clause is, and by the com-

mittee was intended to be, when the sixth order of business is reached, to give one hour for the consideration of bills called up by committees from the House calendar. If at the expiration of the hour the House shall not resolve itself into Committee of the Whole, then the morning hour shall continue during that day or until the matter under consideration in the morning hour is disposed of. If not disposed of before adjournment it would come up again next day in the morning hour for consideration and would be considered for one hour, and one hour only, unless the House should again refuse to go into Committee of the Whole for consideration of business on the calendars.

The minority also complain that upon a motion by direction of a committee the rules may be suspended by a majority vote (clause 1, Rule XVIII) to fix a day for the consideration of a bill previously reported, and that if such motion is made by an individual member, it would require a vote of two thirds. This is true; but the individual member has just as much power in this respect under the new code as he had under the old code. And it seems to me proper that if the rules should be suspended at all by a majority vote fixing a day for the consideration of a bill, they should be suspended by motion, on direction of a committee to consider a bill which has been considered in committee and reported to the House and placed upon the calendar. Consideration and legislation are necessarily largely controlled by committees.

"It is impossible for an individual member to do more, as a general rule, than intelligently exhaust the business of the particular committee or committees on which he may serve.

"The committee recommend the adoption of clauses 1 and 2 of Rule XXII, being the same as former Rule XXII and add thereto clause 3, as follows:

All other bills, memorials, and resolutions may in like manner be delivered indorsed with the names of members introducing them to the Speaker, to be by him referred, and the titles and references thereof shall be entered on the journal and printed on the "Record" of next day, and correction in case of error of reference may be made by the House in accordance with Rule XI within three days immediately after the reading of the journal, but the reading shall be by title only.

"Prior to the Forty-ninth Congress all bills, private and public, were introduced in the House and received their appropriate references to committees. In the Forty-ninth Congress it was provided by this rule, that bills of a private nature with petitions or memorials, could be delivered to the clerk for reference. This saved much valuable time and has operated well; and the Committee on Rules have provided in clause 3 that all other bills, memorials, and resolutions may in like manner be delivered indorsed etc., to the Speaker, to be by him referred to the appropriate committees, with provision for correction of reference in case of error. I have no doubt the adoption of clause 3 will add to the convenience of members and result in the saving of much time to the House.

"Rule XIII provides for three calendars of business reported from committees, the same as in the rules of last Congress, and adds clause 2 as follows:

All reports of committees, together with the views of the minority, shall be delivered to the clerk for printing and reference to the proper calendar, under the direction of the Speaker, in accordance with the foregoing clause.

"It is believed by the committee that this clause will save much valuable time daily, heretofore consumed in receiving reports from committees and referring them to the calendar, as the clerk, when the reports are handed to him, under the direction of the Speaker, can make the references without consuming the time of the House.

"In clause 50 of Rule XI we add 'the Committee on Territories; bills for the admission of new States,' and 'the Committee on Invalid Pensions, general pension bills.' The effect of this amendment is to include these two committees among those having the privilege of reporting at any time upon the matter designated."

Mr. Mills, of Texas, in opposition to the new code said: "Majorities within their limits as defined by the Constitution are supreme. That ought to be satisfactory. But there are some powers that our fathers thought it dangerous for majorities to have, and they said that majorities should not have them. They put majorities under the ban of suspicion. They surrounded them with limitations. They directed the vigilant and watchful eye of the citizen on all their movements. A majority can raise and support an army, but it can not raise and support a church. It can create a court, but it can not create an establishment of religion. In that the minority is superior to the majority. One man can establish his own religion, build his own church, and contribute what he pleases to its support, and 60,000,000 people are utterly powerless to prevent him from doing so as long as the Constitution of the United States remains the supreme law of the land.

"Here, sir, is one place where the minority is superior to the majority. A majority can create a navy, but it can not create a military commission to try any citizen in time of peace. A majority can close our ports, but it can not close our mouths. Free speech is one of the rights which is safely secured within the bolts and bars of the Constitution; it is far beyond the reach of the strong arm of the majority. A majority may suppress an insurrection, but it can not suppress the freedom of the press. The press, though it be in a small minority, is still more powerful than the majority. A majority may prevent the assembling of a hostile army, but it can not prevent the peaceable assembly of the people to petition the Government for a redress of their grievances. A majority may make a rule or a law, but it can not suspend the *habeas corpus* unless in time of war, when the public safety is endangered.

"A majority can levy taxes on imports, but it can not levy taxes on exports. A minority of 1,000 or of 10,000 can send out of the country and all over the world what they please, and a majority of 60,000,000 can not prevent it. A majority can not pass bills of attainder or *ex post facto* laws. Why is this? Among the people from whom we came majorities did all these things. In England the Parliament is the seat of supreme power. It can do what it

wills, and no minority can obstruct or prevent it. It can crown and uncrown the King at pleasure. It can make and unmake the British Constitution. It has not only passed bills of attainder and *ex post facto* laws, but it has declared what is orthodoxy and prescribed the religious belief of the people. It has butchered the people, broken them on wheels, burned them at stakes, and dyed the land with English blood to compel the minority to think, speak, feel, and act as the majority wishes them to do.

"Unfortunately for England and for humanity she had no written constitution as our fathers gave us to protect us. Yes, to 'secure' us in the enjoyment of the inalienable rights with which we were endowed by the Creator. To avoid these great crimes for which unrestricted majorities in the English Parliament are responsible, our fathers established this Government to secure—remember the word 'secure'—to themselves and their posterity the rights with which Nature and Nature's God endowed them. They said in many things majorities should be supreme, and in many others that minorities should be supreme. In all matters of religion the minority is absolutely supreme over themselves and absolutely beyond the reach of political government as long as they do no injury to others.

"We see again in the Constitution an interdiction against the power of the majority over the personal right of the citizen. It is prohibited from making any law to try him for an infamous crime except on the indictment of a grand jury. It can not deprive him of trial by jury. It can not deny him the compulsory power of the Government to bring his witnesses to testify in his behalf. It can not deny him the right to be confronted with his accusers face to face. In all these cases the power of the majority is declared by the Constitution to be dangerous to the liberty of the citizen. Here the citizen, though the humblest in the land, can sit within the fortress of the Constitution, and, sheltered by its power, bid defiance to the will of legislative majorities.

"But, Mr. Speaker, it is not only in our national Constitution we see these limitations thrown around majorities. It is so in every State Constitution in the Union. What is it for? It is to protect the minority; that is what it is for. It is a check to the madness of the majority or its caprice, or its wantonness, to use the word employed by Mr. Jefferson. It is to take away from it that power which all history shows it has so grossly abused.

"The Constitution of the United States prescribes the rules for the government of the great body of the people of the United States. The Constitution of each State prescribes the rules for the government of the people of each State. The Constitution of the United States confers the power on this House to prescribe the rules for its government.

"The rules prescribed under the power conferred by the Constitution of the United States are for the protection of the minority, and they have done it from the foundation of the Government. That is one of the objects of making rules. It is not alone to facilitate business. Of course rules are intended to secure the orderly

procedure of the business of this body, but at the same time they are intended to cause the House to halt, to pause, to reflect, and in some instance, where it may become necessary, to go back and inquire of the sober second thought of the people again.

"We have been contending for rules—rules which provide the mode of procedure in the orderly dispatch of the business of the House, rules which have been provided for the protection and preservation of the rights of the minority, whether that minority be 1 or 100. We have asked for a code like that of our fathers. We have asked for the old institutions of our fathers. We have stood here and remonstrated with the majority on that side of the House against sweeping that code out of existence—a code which we have had for a century, a code under which our nation has grown from 3,000,000 to 65,000,000 people, under which we have grown to be the most prosperous, the most powerful, and most intelligent people on the earth.

"But it is now proposed to tear down all the barriers interposed by our fathers for the protection of the rights of the citizen and permit the majority to make rules to pass bills in violation of the Constitution, to pass them practically without opposition, without consideration, without mature deliberation.

"Pass these rules and there remains no limitation on the power of the majority. Pass the rules as you have reported them, tear down the barriers, and enthrone arbitrary power.

"It is true that a little filibustering has occasionally occurred. But are all these great barriers that were intended for the preservation of the inalienable rights of the citizens to be removed? Are the obstructions interposed for the protection of the Treasury to be removed out of the way? Our friends are so alarmed at the scandal of filibustering that they forget the part they have played in its performance. They forget who introduced it into congressional legislation.

"When did it start here, and who started it? Mr. Speaker, it is the legitimate offspring of the Republican party. The two motions which your committee have reported to eliminate from our rules—the motion to adjourn and the motion to fix a day to which the House shall adjourn—have been in our code for a hundred years. They came from the British Parliament. They are in Jefferson's "Manual." They have been adopted by the House of Representatives and the Senate, and are hoary with age; and yet these two motions were never used to obstruct legislation until 1854, when a Republican minority in the House of Representatives alternated them 128 times to prevent the passage of the Kansas-Nebraska bill. But it did not ruin the country by their obstruction; they appealed from the House to the public judgment whether that bill ought to pass. They called upon the Legislative Assembly to pause, to deliberate, to re-examine again while they made an appeal to the sober second thought of the people.

"There is no reason why these motions should be used for obstructing legislation. The fact is they are never used except on most extraordinary occasions, and when some extraordinary measure is being proposed to be enacted into law. And when that occurs it is not an unmingled evil

to delay the legislation till the public mind can be consulted and the public judgment had.

"There is another feature of the proposed code to which I want to call the attention of the House and the country. It is proposed to invest the Speaker with power to contradict the record provided by the Constitution. The Constitution declares that in a certain contingency a recorded vote shall be had, and at all times a majority shall be required to constitute a quorum. It is now proposed that the Speaker may add to, vary, or contradict that record, and that against the uniform ruling of all the Speakers that have ever presided over the House from the beginning of the Government. The record of this House is like the record of a court, it imports absolute verity. No man can attack the record of a court in a collateral inquiry. No man can say its records are not true or that the record does not contain all the facts, and supplement it by the statement of a bystander.

"The judge can not do it when it is collaterally called in question. The clerk can not do it, and no party can. The record is conclusive. The Constitution has provided that a record of the yeas and nays shall be made in certain cases, and the record shall decide whether a quorum has voted, and which side has the majority. In the face of this plain provision, the Speaker decides, and the majority sustain him, that he can look out over the assembly, and write down as present anybody that he pleases, whether he is present or not. He is to be the judge, not the record, not even the House. The record is made by the answer of the member under the supervision of the whole body, taken down by the clerk, read to the House, vouched for as accurate, and then approved. But all this is abrogated, and the voice of one man is substituted in its stead, and he is authorized to make the Journal say what he wants it to say whether that be correct or not.

"If it were in the power of the House to confer this authority it should not be conferred on any man. What we contend for is this unbroken line of decision by all the Speakers of the House. The rule proposed is condemned by the public opinion of the country. Instead of expediting legislation, the country is erecting checks and barriers against it in every direction.

"It was not the idea of our republican fathers that we wanted a government to be passing laws every hour of the day, interfering constantly with the liberties of the people. We want to have as little law as possible, as little intermeddling as possible with the affairs of the people. We want to protect and preserve the natural rights of the citizen; and in order to do this these checks and balances have been provided in the Constitutions of all the States, as well as in the Federal Constitution, and in the rules of proceedings of all legislative bodies, the object of which, as I have said, is to compel legislative assemblies to go slow, to deliberate, to debate, to reflect, to pause, to examine the pending question in all its aspects, to let party passion and party madness die, to let judgment resume its sway. These are the things that wise legislation demands; and this is all we have asked.

"In challenging the ruling of the Speaker, in challenging the will of the majority as it has

been placed before us, we have only appealed to the intelligent judgment of the country. We have only said that we want rules in this House which will protect the people against rash, ill-advised, and unwise legislation. We want mature consideration given to every question. We want the right defended; we want the wrong prevented. And where measures are dictated by partisan considerations and filled with injustice we want the right to check them and to require the majority party to pass them by their own votes. We are not charged with the responsibility of legislation. The majority party have been charged by the people with that duty.

"We are in the opposition to that party and to its measures. We claim the right to discharge the duties placed on us by our constituents in the way that seems to us the most effective. We say you should pass your own measures by your own votes. You have no right to compel us to assist you in accomplishing that to which we are opposed. Why should we be compelled to aid you in making a quorum? If in our judgment that is the proper course for us to pursue in discharge of the trust confided to us, you should not compel us to act against our interests and the interests of our people.

"You have the majority. Keep them in the House and attend to your own business, and do not put any part of it on our shoulders. You show that you can have a majority when it is absolutely necessary, why can not you have it all the time.

"We only want the safeguards our fathers have thrown around the rights of the people in the Constitution. We simply pause here to emphasize to the country the wrong you are doing. We refuse to vote. We stop and invoke the public judgment on the conduct of the majority. From their judgment we appeal to the judgment of the people of the country, and by that judgment we are perfectly willing to abide."

Mr. Payson, of Illinois, said as to the rule providing for the counting of a quorum:

"The necessity for the adoption of such a rule was early impressed upon me.

"I remember, Mr. Speaker, as vividly as any recollection that occurs to me, that during the early part of the Forty-seventh Congress, when the Republicans were in the majority on this floor, a filibuster was instituted on the other side of the House in reference to an election case. We lacked three votes of having a quorum. A warrant was issued to the sergeant-at-arms by the then Speaker of the House; four or five gentlemen were brought in here from some scene of festivity they were engaged in, in dress suits, and arraigned at the bar of the House to answer for contempt to this body for absenting themselves from its sitting without leave. I sat in the seat I now occupy, and supposed that proceeding meant something.

"I was young in parliamentary experience at that time, and had an idea, Mr. Speaker, that a member of this House, absent from its sitting without leave, when brought in here under arrest, on a warrant duly issued under constitutional provision that he should aid to constitute a quorum, that that meant something. Gentlemen were arraigned, their excuses were received, and they were permitted to take their seats. A

roll call was then had; and we still lacked three votes because the arrested parties refused to vote. One of the gentlemen brought in rose in his place and made the point of no quorum. To me then a singular anomaly presented itself that a gentleman could be physically present and constitutionally absent; that he could be present for the purpose of preventing the representatives of the American people in this body from transacting in an orderly way any business, and yet could be constitutionally absent and could not be counted as present for the purpose of making a quorum if he declined to vote, though present and making the objection. But, sir, when I had the opportunity of consulting some older members here I found the precedents were in favor of that practice. To me it was an utter absurdity, and I so expressed myself and have never abandoned that opinion. I believe the rule should be changed. I believe that we have the power to do so, and to that question I first address myself.

"I agree, Mr. Speaker, with the statement, clearly and concisely expressed, made by the distinguished gentleman from Kentucky (Mr. Carlisle) when this matter was up on the 29th day of the last month, that this is purely a question of constitutional law, as contradistinguished from a proposition of parliamentary procedure; and it is a question, sir, that can never be settled by the vehement denunciations of individuals, or by wild and tumultuous rushing up and down the aisles and denouncing gentlemen who entertain contrary opinions as being revolutionary in their opinions and actions; a question which should be dealt with deliberately, the consideration of which should be characterized with like care and deliberation as though it was being judicially determined.

"Whether or not the Constitution of the United States justifies this action should be settled by deliberate judgment rather than by tumultuous outcry. Mr. Speaker, the Constitution provides in terms that—

Each House shall be the judge of the elections, returns, and qualifications of its own members, and a majority of each—

"Here is the pith of the proposition—
a majority of each shall constitute a quorum to do business.

"Mark the expression, Mr. Speaker, 'A majority of each shall constitute a quorum to do business.'

"Looking over the debates in the constitutional convention it is perfectly clear that the only danger apprehended by the framers of that instrument by the action of the Congress in the passing of bills was as to the action of less than a majority when the majority was absent, and so the provision was adopted that a majority should 'constitute a quorum to do business,' not a 'majority present and voting to do business,' but a 'majority of each House shall constitute a quorum to do business.'

"The practice in the British Parliament was, of course, well known to all, and then furnished, as it does now largely, in the absence of fixed rules, precedent for procedure, and there the practice has been uniform that the presence only of members was necessary to make a quorum,

and this presence was ascertained always by a count by the Speaker. On one announcement by him, from a count, that a quorum was present, either on the assembling or pending business, on the point being made, business was proceeded with.

"So I maintain that the constitutional convention had clearly in mind the idea that presence only of a majority was necessary to make a quorum. Some light may be shed on this question by a reference to some important later legislation.

"Let me call the attention of the House to the twelfth amendment to the Constitution of the United States, adopted, as members will remember, in 1803, and doubtless many of those who sat in one or the other branch at the time were members of the constitutional convention that had framed the Constitution and knew the construction to be put upon it. That amendment to the Constitution provides—

But in choosing the President the votes shall be taken by States, the representation from each having one vote; a quorum for this purpose shall consist of a member or members from two thirds of the States, and a majority of all the States shall be necessary to a choice.

"Do gentlemen on the other side claim it requires the affirmative action of two thirds? Not at all. All that is necessary under that clause of the Constitution is two thirds shall be present, and a majority of the States acting affirmatively is all that is required to elect the President of the United States, the highest officer of our Government. If anything shows by implication what was clearly in the minds of the framers of the Constitution as to what should constitute a quorum, as in the case of the election of President, that does: the presence of a quorum to do business, their presence and acquiescence are all that is necessary.

"Therefore, the framers of the Constitution, if we may judge from the history of legislation, regarded it as their duty not only to be present but to participate in whatever presented itself for their consideration, and therefore they provided that a majority of the members elected—a majority of the members of each House—should constitute a quorum. What for? To do business. If to do business, then business may be done, and if it may be done, when? Manifestly whenever a majority of the members of the House is present.

"The logic of the gentlemen on the other side is this: that not only does it require a majority of the House to constitute a quorum, but the dominant party must always furnish that quorum.

"Any proper construction of the Constitution may be regarded as written in it.

"Try this, Mr. Speaker.

"Insert in the Constitution the conclusion of the gentlemen on the other side, and see how it would read:

A majority of each House shall constitute a quorum to do business, and on demand of a single member the political party having a majority shall furnish the quorum.

"Do I make myself understood, Mr. Speaker? The gentleman from Kentucky insists, and others upon that side argue as he argues, that under the

Constitution of the United States it was in the contemplation by the framers of that great instrument that the dominant political party must, at the demand of the minority, always be ready and willing and prepared to furnish the necessary quorum to do business. A greater absurdity never was uttered; for it presupposes, Mr. Speaker, that political situations and political exigencies were in the minds of the framers of the Constitution when that great instrument was adopted. If that policy should be carried out let us refer to the history of the last Congress for a moment to determine what legislation could have been effected in this House if the last Congress had adopted the views that the other side now contend for.

"I am advised, Mr. Speaker, on authority that I regard as credible, that there was not a legislative day in the Fiftieth Congress when the Democratic party had a quorum in attendance. At the time of the contest over the seat of Mr. Carlisle there was not a quorum present on the Democratic side of the House, nor was there during the entire Fiftieth Congress: yet will it be pretended that in view of that situation nothing whatever should have been done? Could it be sincerely contended by gentlemen on the other side, Mr. Speaker, that in view of that situation the framers of the Constitution had in contemplation that a political party of this Union must always have on hand a quorum in this House ready to act precisely as though every member upon the other side were absent beyond the power of discovery.

"I believe that if a majority is here that a quorum is here.

"If the gentleman from Georgia (Mr. Crisp) is here, he is present to make part of a quorum "to do business," and a fundamental principle is, that with a quorum present a legal enactment may be passed.

"The principle involved in this clause of the new rule, denounced as it has been by all on the other side of the House, not only commends itself to me as correct, but has received the indorsement of very respectable authority. Upon your decision, Mr. Speaker, on the 29th of January, that you could and would note the presence of certain members and their declining to vote, you cited the opinion of Lieut.-Gov. Hill, as the presiding officer of the Senate of the State of New York, in a case identical with ours, which opinion appears in the record of the proceedings of that date.

"The gentleman from Kentucky (Mr. Carlisle) in the debate on that day said:

I say that I do not agree with Gov. Hill that he had a right to count a quorum when it was not voting, but that is an entirely different question from the one now before the House; and I was about to say when the Republicans have to resort to Democratic precedents for their action in this House that it is to be regretted that they should have taken the very worst ones they could find. There are a number of good Democratic precedents, which you could have found.

"Mr. Speaker, since the speech so loudly applauded was made some investigations have been made as to what the precedents really are, and they are not only numerous, in legislative bodies, but these affirmed by courts of last resort in different States, and all, without exception I believe, in the line of the rule we are seeking to adopt.

"The practice, sir, of counting members present and refusing to vote to make a constitutional quorum has not only been adopted in New York in the case cited, but in Indiana; in Tennessee; in Kentucky, and I pause to state that a bill so passed in that State and with full knowledge of the situation was signed by Hon. Proctor Knott, the then Governor, whose deserved high position as a lawyer is attested by his having occupied the position of chairman of the Committee on the Judiciary of the House of Representatives; in Illinois, and the regularity of such proceeding has been indorsed by the supreme court of that State in a case reported in Volume 113 of the reports of that court; in Ohio indorsed in like manner by the Supreme Court of that State, 37 Ohio State Reports; in Massachusetts, by a decision of the presiding officer of the Senate in 1885, and since followed; in Pennsylvania; in Virginia, by rule in the House of Delegates; and as I am credibly advised, in the State of Texas, on a ruling by Gov. Hubbard, not unknown to Democratic politicians, with so many States yet to hear from; and singularly enough, Mr. Speaker, not one so far as I can learn the other way.

"The number of 'good Democratic precedents that could have been found' have not as yet materialized in a single instance adverse to our contention here.

"I am aware that the precedents in this body have in earlier days been against the view I am presenting; but gentlemen will notice that when the question was first presented, and decided by Mr. Speaker Blaine, it was considered rather as a matter of parliamentary procedure, rather than the deeper one of constitutional law, because the apparent question discussed and decided was made to turn on whether a member could be compelled to vote; that seemed to be regarded as the important factor, while here the question is, if present, though not voting, does he form a part of a constitutional quorum? And may the Journal show the exact fact, subject, of course, to its being approved by the House. A very different question.

"But if the cited precedents were exactly in point my views would not be changed.

"Precedents in procedure should always be overturned, not only when wrong, but when the changed condition of affairs demonstrate the necessity for new rules or new decisions.

"The law-books show numerous instances of overruled cases, and here is an excellent opportunity for the exercise of a better judgment.

"I feel content with these views on the question of power to adopt the rule.

"As to the policy, because of the necessity for its exercise, I feel equally clear.

"While there is nothing in the language of the Constitution asserting directly that a member in attendance shall be compelled to vote, yet the duty rests upon him; it is his duty to do so. If he is present, he is presumed to be participating and to acquiesce in whatever is done in the body if he does not affirmatively express his disapproval either by words or vote."

Mr. Dockery, of Missouri, in arguing against the rule for the counting of a quorum cited a number of parliamentary authorities: "As I turn to the record of the debate in this hall

Jan. 28, 1880, upon a similar amendment to the rules offered by the gentleman from Virginia (Mr. Tucker), I find arrayed against the proposition some of the greatest leaders known to the history of the Republican party. I find you, Mr. Speaker, not only ably championing the present position of the Democratic party, but in this eloquent and forcible language defending dilatory and filibustering proceedings:

Now, what is the practical upshot of the present practice? It is that the members of the minority of this House upon great occasions demand that every bill which is passed shall receive the absolute vote of a majority of the members elected. They do this in the face and eyes of the country. If they demand upon any frivolous occasion that there shall be such an extraordinary vote as that, they do it subject to the censure of the people of this land. This practice has hitherto kept this House in proper condition upon this subject, so that there has been no improper impeding of the public business.

It is a valuable privilege for the country that the minority shall have the right by this extraordinary mode of proceeding to call the attention of the country to measures which a party in a moment of madness and of party feeling is endeavoring to enforce upon the citizens of this land. And it works equally well with regard to all parties, for all parties have their times when they need to be checked, so that they may receive the opinions of the people who are their constituents and who are interested in the results of their legislation.

"I also find that eminent Speaker Mr. Blaine, during the pendency of the famous dead-lock on the force bill, was frequently solicited to enforce the view contemplated by this rule. He refused to accede to the demand made by several gentlemen on the floor. To one he replied as follows:

If the point be raised, a gentleman addressing the Chair may be taken off the floor by any member raising the point that no quorum is present. The question being so raised, the Chair, according to his judgment and on his responsibility, can rule that a quorum is present. But when the roll call is resorted to, that is the last mode of certification, from which there is no appeal. Now, that the rules absolutely require gentlemen to vote is undeniable; but how the gentleman from Missouri, on whom the point has been made, can be compelled to stand up and pronounce his vote "aye" or "no" the Chair does not know.

"To another he said:

The Chair never heard of that being done. He begs to remind the House, whereas that might and doubtless would be true that there is a quorum in the hall, the very principle enunciated by the gentleman from Indiana has been the foundation probably for the greatest legislative frauds ever committed.

Where a quorum, in the judgment of the Chair, has been declared to be present in the House against the result of a roll call, these proceedings in the different Legislatures have brought scandal on their name.

"To yet another he declared:

There can be no record like the call of the yeas and nays, and from that there is no appeal.

The moment you clothe your Speaker with power to go behind your roll call and assume that there is a quorum in the hall, why, gentlemen, you stand on the very brink of a volcano.

I find, further, that in this same debate the views of yourself, sir, and of our present distinguished Secretary of State were confirmed and supplemented by the gifted and lamented Garfield in these words:

I call attention to the first phase of the question, and ask my friend from Virginia, without any regard

to its partisan bearing, to see into what a strange and vague condition this House would be left if this were adopted. Whenever the question arises whether there is a quorum or not present, it is to be determined according to what he calls "ocular demonstration." The chairman of the Committee of the Whole or the Speaker of the House is to see with his own eyes that there is a quorum present. Who is to control his seeing? How do we know but that he may see forty members more for his own purposes than there are here in the House? And what protection have gentlemen if the Speaker says he sees a quorum if he cannot convert that seeing into a list of names on the call of the roll by the clerk?

I think my friend from Virginia will see that he lets in the one-man power in a far more dangerous way than ever has occurred before in any legislative assembly of which he and I have any knowledge.

Aside from the insuperable objection that I have raised to this proposition, as a thing that ought not to be tried because of its vagueness, its uncertainty, and the danger that members of the House may be imposed upon by an unscrupulous Speaker that may come hereafter—I say that aside from all that, and beyond all that, I ask members to consider one fact: This has been a House of Representatives since 1789. This House has been the theatre of all sorts of political storms and tempests. We have lived through the times of great wars, of a great civil war, when there were excitements hardly paralleled in the history of parliamentary annals. Yet during all these years no man before, so far as I know, no party before has ever thought it necessary to introduce a rule that gives the power of declaring the presence of members by the single voice of one person; a power that will enable him to bring from his sick-bed a dying man and put him down in this hall, so that the Speaker shall count him, and make his presence against his will, and perhaps in his delirium, count in order to make a quorum, so that some partisan measure may be carried out over the body of that dying man.

Sir, the moment you get over the line, the moment you cross the boundary of names, the moment you leap over the iron fence of the roll, that moment you are out in the vague, and all sorts of disorders may come in.

"And, sir, if the views of the eminent gentlemen already cited could need further weight or confirmation, it is found in the remarks of the gentleman from Michigan (Mr. Conger) since his retirement from this body a Senator from that State:

Sir, I in common with every member of this House demand that there shall be a public exhibition of presence—a public record of votes; that there shall be tellers; that there shall be yeas and nays; that the yeas and nays shall determine how you and I and every other member of this House may have voted and would vote.

The point made by my friend from Ohio (Mr. Garfield) is a good one—that we are committing to the Speaker of the House or the chairman of the Committee of the Whole the right first to determine who are present and to determine when there is a quorum. It is useless to say that there may not be times when in such an emergency as would require the exercise of this power the presiding officer would not be partisan. Shakespeare foretold this when in one of his plays he said:

"Get thee glass eyes;
And, like a scurvy politician, seem
To see the things thou dost not."

Such politicians will come here on either or any side. The force of circumstances, the impetuous passions of members which would produce such an occasion, will influence men to see that which they see not, with or without "glass eyes."

I have no fear that this amendment will be adopted

in this House, because it would be wrong in itself; it would be unconstitutional; it would be violently partisan. I have no fear that the fair-minded men of this House on either side will adopt so violent and partisan a measure.

"And finally, Mr. Speaker, you had the countenance and support of the distinguished Senator and party leader (Mr. Hawley), at that time a member of this body, who said:

Now, the evil, if there be one, in the existing system, that of which gentlemen complain, is simply this, that we of the minority claim a right, by sitting silent, to prevent less than a majority of the members elected from passing a bill. The worst that can be done by a factious minority, if that be the term applied to it, is to fight until the actual majority of the members elected shall pass the bill. When they are present that friendly majority constitute a quorum of themselves; they do not require the assistance of the minority; they run the House themselves and pass their bills. In case of what you call factious resistance we drive them only to that.

"Mr. Speaker, if you were right in 1880, when you stood side by side on this floor with Garfield, Hawley, Conger and Blaine, the rule you now invoke will be powerless to aid you in your purposes. For, as has been wisely said by the able gentlemen from Kentucky and Ohio (Mr. Carlisle and Mr. McKinley) this is a question not of parliamentary law, but of constitutional law and construction, so that if the constitutional quorum is in fact a quorum of votes, this proposition will not bridge that yawning chasm which lies between the law and precedents of a hundred years and those forbidding legislative realms toward which your steps are tending."

The debate was earnest and able but abounding in repetition. It closed Feb. 14, when the new code of rules was adopted by the following vote:

YEAS—Adams, Allen of Michigan, Anderson of Kansas, Arnold, Atkinson, Baker, Banks, Bartine, Bayne, Beckwith, Belden, Belknap, Bergen, Bingham, Bliss, Boutelle, Bowden, Brewer, Brosius, Brower, Browne of Virginia, Browne of Montana, Buchanan of New Jersey, Burrows, Burton, Butterworth, Caldwell, Candler of Massachusetts, Cannon, Carter, Caswell, Cheadle, Cheatham, Clark of Wisconsin, Cogswell, Coleman, Comstock, Conger, Connell, Cooper of Ohio, Craig, Culbertson of Pennsylvania, Cutcheon, Dalzell, Darlington, De Haven, De Lano, Dingley, Dolliver, Dorsey, Dunnell, Evans, Ewart, Farquhar, Finley, Flick, Flood, Funston, Gear, Gest, Gifford, Greenhalge, Grosvenor, Grout, Hall, Hansbrough, Harmer, Haugen, Henderson of Illinois, Henderson of Iowa, Hermann, Hill, Hitt, Houk, Kelley, Kennedy, Kerr of Iowa, Ketcham, Kinsey, Knapp, Lacey, La Follette, Laidlaw, Lansing, Laws, Lehlbach, Lind, Lodge, Mason, McComas, McCord, McCormick, McKenna, Miles, Milliken, Moffitt, Moore of New Hampshire, Morey, Morrill, Morse, Niedringhaus, Nute, O'Donnell, O'Neill of Pennsylvania, Osborne, Owen of Indiana, Payne, Perkins, Peters, Pickler, Post, Pugsley, Quackenbush, Raines, Randall of Massachusetts, Ray, Reed of Iowa, Rife, Rockwell, Rowell, Russell, Sanford, Sawyer, Seranton, Seull, Sherman, Simonds, Smith of Illinois, Smith of West Virginia, Smyser, Snider, Spooner, Stephenson, Stewart of Vermont, Stivers, Stockbridge, Struble, Sweney, Taylor of Illinois, Taylor of Tennessee, E. B. Taylor, J. D. Taylor, Thomas, Thompson, Townsend of Colorado, Townsend of Pennsylvania, Turner of Kansas, Vandever, Wade, Walker of Massachusetts, Wallace of Massachusetts, Wallace of New York, Watson, Wheeler of Michigan, Wickham, Williams of Ohio, Wilson of Kentucky, Wilson of Washington, Wright, Yardley—161.

NAVS—Abbott, Anderson of Mississippi, Andrew, Bankhead, Barnes, Barwig, Bland, Blount, Boatner, Breckenridge of Arkansas, Breckinridge of Kentucky, Brickner, Brookshire, J. B. Brown, Buchanan of Virginia, Buckalew, Bullock, Bunn, Bynum, Campbell, Candler of Georgia, Carlton, Caruth, Catchings, Cate, Chipman, Clancy, Clarke of Alabama, Clements, Clunie, Cobb, Compton, Cooper of Indiana, Cottrhan, Covert, Cowles, Crain, Crisp, Culbertson of Texas, Cummings, Dargan, Davidson, Dibble, Dockery, Dunphy, Edmunds, Elliott, Ellis, Enloe, Fitch, Fithian, Flower, Forman, Fowler, Geissenhainer, Gibson, Goodnight, Grimes, Hare, Hatch, Hayes, Heard, Hemphill, Henderson of North Carolina, Herbert, Holman, Hooker, Kerr of Pennsylvania, Kilgore, Lane, Lanham, Lawler, Lee, Lester of Georgia, Lester of Indiana, Lewis, Magner, Maish, Mansur, Martin of Indiana, Martin of Texas, McAdoo, McCarthy, McClammy, McClellan, McCreary, McMillin, McKee, Mills, Montgomery, Moore of Texas, Morgan, Mutchler, Norton, O'Ferrall, O'Neill of Indiana, O'Neil of Massachusetts, Outhwaite, Owens of Ohio, Parrett, Paynter, Peel, Pendleton, Pennington, Perry, Pierce, Price, Quinn, Reilly, Richardson, Robertson, Rowland, Rusk, Sayers, Seney, Shively, Skinner, Spinola, Springer, Stewart of Georgia, Stewart of Texas, Stockdale, Stone of Kentucky, Stone of Missouri, Stump, Tarsney, Tillman, Tracey, Tucker, Turner of Georgia, Turpin, Venable, Walker of Missouri, Washington, Wheeler of Alabama, Whiting, Wike, Wiley, Wilkinson, Wilcox, Williams of Illinois, Wilson of Missouri, Wise, Wodars—144.

NOR VOIR—Alderson, Allen of Mississippi, Biggs, Blanchard, Boothman, Brunner, Carlisle, Forney, Frank, Haynes, Hopkins, McKinley, Morrow, Oates, Phelan, Randall of Pennsylvania, Rogers, Stahlnecker, Turner of New York, Van Schaick, Whitthorne, Wilber, Wilson of West Virginia—23.

The Tariff Measure.—On April 16, 1890, Mr. McKinley, of Ohio, introduced the bill "to equalize duties upon imports and to reduce the revenues of the Government" which is commonly called by his name. It had long been under consideration in the Committee on Ways and Means.

The measure was brought up for discussion May 7 and it was determined to limit general debate to four days, and then allow eight days for consideration, section by section, under the five-minute rule.

In opening the debate Mr. McKinley said:

"If any one thing was settled by the election of 1888, it was that the protective policy, as promulgated in the Republican platform and heretofore inaugurated and maintained by the Republican party, should be secured in any fiscal legislation to be had by the Congress chosen in the great contest and upon that mastering issue. I have interpreted that victory to mean, and the majority in this House and in the Senate to mean, that a revision of the tariff was not only demanded by the votes of the people, but that such revision should be on the line and in full recognition of the principle and purposes of protection. The people have spoken; they want their will registered and their decree embodied in public legislation.

"The bill which the Committee on Ways and Means have presented is their answer and interpretation of that victory and in accordance with its spirit and letter and purpose. We have not been compelled to abolish the internal-revenue system that we might preserve the protective system, which we were pledged to do in the event the abolition of the one was essential to

the preservation of the other. That was unnecessary.

"The bill does not amend or modify any part of the internal-revenue taxes applicable to spirits or fermented liquors. It abolishes all the special taxes and licenses, so called, imposed upon the manufacture of tobacco, cigars, and snuff, and dealers thereof, reduces the tax upon manufactured tobacco from eight to four cents per pound, and removes all restrictions now imposed upon the growers of tobacco. With these exceptions the internal-revenue laws are left undisturbed.

"From this source we reduce taxation over \$10,000,000, and leave with the people this direct tax which has been paid by them upon their own products through a long series of years.

"The tariff part of the bill contemplates and proposes a complete revision. It not only changes the rates of duty, but modifies the general provisions of the law relating to the collection of duties. These modifications have received the approval of the Treasury Department, and are set forth in detail in the report of the committee, and I will not weary this committee in restating them here. A few of the more important changes, however, are deserving our attention.

"There has been for many years a provision in the law permitting the United States to import for its use any article free of duty. Under this provision gross abuses have sprung up, and this exemption from duty granted the United States has served as an open doorway to frauds upon our revenue and unjustifiable discriminations against our own producers.

"Not only has the Government imported supplies from abroad, but its officers, agents, and contractors have been held to enjoy the same privilege, which has been exercised to the injury of our own citizens. The result has been that supplies imported by contractors for governmental work have, in many instances, been in excess of the demand for such public work and been applied to other and different uses.

"This provision of law has been eliminated in the proposed revision, and if approved by the House and Senate and the President, the Government, its officers, agents, and contractors, will hereafter have to pay the same duties which its citizens generally are required to pay. Your committee have been actuated in this by the belief that the Government should buy what it needs at home; should give its own citizens the advantage of supplying the United States with all of its needed supplies, and that the laws which it imposes upon its own people and tax payers should be binding upon the Government itself.

"The committee have also fixed a limit upon the amount and value of personal effects accompanying the passenger returning from foreign travel to \$500. It has been too common for citizens of the United States visiting other countries to supply themselves not only for their immediate uses but for future uses and for the uses of their friends, and there has heretofore been no limit to the amount and value of foreign articles which could be brought in free of duty under the designation of "personal effects" if accompanied by the returning passenger.

"The practical effect of this provision was that the wealthy classes who were able to visit distant countries secured exemption from the

payment of duties, while the average citizen unable to go abroad was compelled to pay a duty upon the articles which he might want to use. The limit of \$500 is believed to be sufficient for all honest purposes.

"We have also introduced a new provision in the bill which requires that foreign merchandise imported into the United States shall be plainly stamped with the name of the country in which such articles are manufactured. There has been a custom too general in some foreign countries to adopt American brands to the injury of our own manufacturers. Well-known articles of American production with high reputation have been copied by the foreigner and then by the addition of the American brand or American marks have fraudulently displaced American manufacture, not in fair competition, but under false pretenses. The counterfeit has taken the place of the genuine article, and this we propose to stop.

"Section 49 of the bill provides that goods, wares, and merchandise and all articles manufactured in whole or in part in any foreign country by convict labor shall not be entitled to entry at any of the ports of the United States, and the importation thereof is prohibited. Nearly, if not all of the States of the Union have laws to prevent the products of convict labor in the State penitentiaries from coming in competition with the product of the free labor of such States. The committee believed that the free labor of this country should be saved from the convict labor of other countries, as it has been from the convict labor of our own States, and so recommend this provision. It will be of small account to protect our workmen against our own convict labor and still admit the convict-made products of the world to free competition with our free labor.

"By way of encouraging exportation to other countries and extending our markets, the committee have liberalized the drawbacks given upon articles or products imported from abroad and used in manufactures here for the export trade. Existing law refunds 90 per cent. of the duties collected upon foreign materials made into the finished product at home and exported abroad, while the proposed bill will refund 99 per cent. of said duties, giving to our citizens engaged in this business 9 per cent. additional encouragement, the Government retaining only 1 per cent. for the expenses of handling.

"We have also extended the drawback provision to apply to all articles imported which may be finished here for use in the foreign market. Heretofore this privilege was limited. This, it is believed, will effectually dispose of the argument so often made that our tariff on raw materials, so called, confines our own producers to their own market and prevents them from entering the foreign market, and will furnish every opportunity to those of our citizens desiring it to engage in the foreign trade.

"Now, the bill proposes that the American citizen may import any product he desires, manufacture it into the finished article, using in part, if necessary, in such manufacture domestic materials, and when the completed product is entered for export refunds to him within 1 per cent. of all the duty he paid upon his imported materials.

"In the same direction we have made, by section 23, manufacturing establishments engaged in smelting or refining metals in the United States bonded warehouses under such regulations as the Secretary of the Treasury may prescribe, and have provided that metals in any crude form requiring smelting or refining to make them available in the arts imported into the United States to be smelted or refined and intended for export in a refined state, to be exempt from the payment of duties. This, it is believed, will encourage smelting and refining of foreign materials in the United States, and build up large industries upon the sea-coast and elsewhere, which will make an increased demand for the labor of the country.

"It completely, if the provision be adopted, disposes of what has sometimes seemed to be an almost unanswerable argument that has been presented by our friends on the other side, that if we only had free raw material we could go out and capture the markets of the world. We give them now within 1 per cent. of free raw material, and invite them to go out and capture the markets of the world.

"It is asserted in the views of the minority, submitted with the report accompanying this bill, that the operation of the bill will not diminish the revenues of the Government; that with the increased duties we have imposed upon foreign articles which may be sent to market here we have increased taxation, and that therefore instead of being a diminution of the revenues of the Government there will be an increase in the sum of fifty or sixty million dollars.

"Now, that statement is entirely misleading. It can only be accepted upon the assumption that the importation of the present year under this bill, if it becomes a law, will be equal to the importations of like articles under the existing law; and there is not a member of the Committee on Ways and Means, there is not a member of the minority of that committee, there is not a member of the House on either side, who does not know that the very instant that you have increased the duties to a fair protective point, putting them above the highest revenue point that very instant you diminish importations and to that extent diminish the revenue.

"The bill recommends the retention of the present rates of duty on earthen and china ware. No other industry in the United States either requires or deserves the fostering care of Government more than this one. It is a business requiring technical and artistic knowledge and the most careful attention to the many and delicate processes through which the raw material must pass to the completed product. For many years, and down to 1863, the pottery industry of the United States had had little or no success, and made but slight progress in a practical and commercial way. At the close of the low-tariff period of 1860 there was but one pottery in the United States, with two kilns. There were no decorating kilns at that time.

"In 1873, encouraged by the tariff and the gold premium, which was an added protection, we had increased to 20 potteries, with 68 kilns, but still no decorating kilns. The capital invested was \$1,020,000, and the value of the product was \$1,180,000. In 1882 there were 55 pot-

teries, 244 kilns, 26 decorating kilns, with a capital invested of \$5,076,000; and the value of the product was \$5,299,140.

"The wages paid in the potteries in 1882 were \$2,387,000 and the number of employés engaged therein 7,000; the ratio of wages to sales in 1882 was 45 per cent. In 1889 there were 80 potteries, 401 kilns, and decorating kilns had increased from 26, in 1882, to 188 in 1889. The capital invested in the latter year was \$10,597,357, the value of the product was \$10,389,910; amount paid in wages \$6,265,234, and the number of employés engaged, 16,900. The ratio of wages to sales was 60 per cent. of decorated ware and 50 per cent. of white ware.

"The per cent. of wages to value of product, it will be observed, has advanced from 45 per cent. in 1882 to 60 per cent. in 1889. This increase is not due, as might be supposed, to an advance in wages, but results in a reduction of the selling price of the product and the immense increase in sales of decorated ware in which labor enters in greater proportion to materials.

"In 1882 an assorted crate of ware sold for \$57.89, and the same, only a better ware, is now sold for \$46.30. In 1864 we paid for the same crate of ware \$210.75. On decorated ware the immense benefit to the consumer is even more apparent. The selling price of all decorated ware was from 50 to 100 per cent. higher in 1882 than in 1890.

"In 1852, with the low revenue-tariff duty of 24 per cent. and no domestic manufactures, an assorted crate of white ware sold at \$95.80; in 1890, with the 55-per-cent. duty and domestic competition, with large potteries, which are the pride of the country, employing labor and capital at home, buying our own raw material, the same assorted crate is selling for \$46.30.

"We have recommended an increase of duties upon glassware. Since the tariff act of 1883, by which duties were reduced, importations from the other side have been constantly increasing, and our own workmen have not been employed at full time as a result. Our sharpest competition comes from Belgium, where the labor, skilled and unskilled, is much lower than in the United States. There they work seven days in every week.

"It will appear that the cost of labor in Germany may be set down at one third of the cost in the United States; that of Great Britain at five eighths, and that of France at a medium between Germany and Great Britain. The American Flint-Glass Workers' Union, through their president, stated before the committee that this large difference in the cost of labor between foreign countries and the United States makes it impossible for the home product to compete with the foreign-made goods in the market of the United States under the present duty, and that to maintain the present rates of wages an increase of duty is demanded.

"The agricultural condition of the country has received the careful attention of the committee, and every remedy which was believed to be within the power of tariff legislation to give has been granted by this bill. The depression in agriculture is not confined to the United States. The reports of the Agricultural Department indicate that this distress is general, that Great

Britain, France, and Germany are suffering in a larger degree than the farmers of the United States. Mr. Dodge—statistician of the department—says, in his report of March, 1890, that the depression in agriculture in Great Britain has been probably more severe than that of any other nation, which would indicate that it is greater even in a country whose economic system differs from ours, and that this condition is inseparable from any fiscal system, and less under the protective than the revenue-tariff system.

"It has been asserted in the views of the minority that the duty put upon wheat and other agricultural products would be of no value to the agriculturists of the United States. The committee, believing differently, have advanced the duty upon these products. As we are the greatest wheat-producing country of the world, it is habitually asserted and believed by many that this product is safe from foreign competition. We do not appreciate that while the United States last year raised 490,000,000 bushels of wheat, France raised 316,000,000 bushels; Italy raised 103,000,000 bushels; Russia, 189,000,000 bushels; and India, 243,000,000 bushels; and that the total production of Asia, including Asia Minor, Persia, and Syria, amounted to over 815,000,000 bushels. Our sharpest competition comes from Russia and India, and the increased product of other nations only serves to increase the world's supply and diminish proportionately the demand for ours; and if we will only reflect on the difference between the cost of labor in producing wheat in the United States and in competing countries we will readily perceive how near we are, if we have not quite reached the danger-line, so far even as our own markets are concerned.

"The cost of farm labor in Great Britain, estimated by the statistician of the Agricultural Department, is \$150 per annum; in France, \$125; in Holland and Austria, \$100; in Germany, \$90; in Russia, \$60; in Italy, \$50; and in India, \$30; while the same labor costs in this country \$220. The farmers of the United States have therefore come to appreciate that with the wonderful wheat development in India and Russia, with the vast sums of money which have been expended on irrigation and in railroads for transporting this wheat, taken in connection with their cheap labor, the time is already here when the American farmer must sell his product in the markets of the world in competition with the wheat produced by the lowest-priced labor of other countries, and that his care and concern must in the future be to preserve his home market, for he must, of necessity, be driven from the foreign one, unless by diminishing the cost of his production he can successfully compete with the unequal conditions I have described. Now as to other products of agriculture.

"During the last year Canada exported to the United States eggs to the value of \$2,159,725; horses, \$2,113,782; sheep, \$918,334; poultry, \$110,793; wool, \$216,918; barley, \$6,454,603; beans, \$435,534; hay, \$822,381; malt, \$105,183; potatoes, \$192,576; planks and boards, \$7,187,101. There were exported of fish of various kinds, lumber, and other commodities to the amount of at least \$20,000,000 more.

"The increase of importations in agricultural

products has risen from \$40,000,000 in 1850, to \$256,000,000 in 1889.

"We imported in the last ten years more than \$60,000,000 worth of horses, cattle, and sheep. We imported tobacco from the Netherlands for the six months ending Dec. 31, 1889, to the value of \$5,000,000.

"The present rate of duty on first-class wool is 10 cents per pound, and upon second-class 12 cents per pound. We have recommended in this bill that the duty on first-class wool shall be increased from 10 cents to 11 cents a pound, and that the duty now fixed on second-class wools shall remain as at present. On third-class wool the present rate of duty is 2½ cents per pound upon all wool costing under 12 cents, and 5 cents a pound on wools costing above 12 cents.

"The Committee on Ways and Means will offer an amendment when this schedule is reached, providing that on carpet wools the dividing line shall be changed from 12 to 13 cents, and that the duty on wool under 13 cents, commonly known as carpet wool, shall be 32 per cent. ad valorem, and above 13 cents per pound shall be 50 per cent. ad valorem. It will be noted that we make on first-class wool an increase of 1 cent a pound, and that the existing rate on second-class wool shall be maintained, and the proposed ad valorem rate will raise the duty on carpet wools of certain grades according to their value.

"If there is any one industry which appeals with more force than another for defensive duties it is this, and to no class of our citizens should this House more cheerfully lend legislative assistance, where it can properly be done, than to the million farmers who own sheep in the United States. We can not afford as a nation to permit this industry to be longer crippled.

"It is also to be noted, Mr. Chairman, that having increased the duties on wools we have also increased the duties on the product—the manufactures of wool—to compensate for the increased duty on the raw product.

"In the metal schedule, which is probably the schedule in which the country is as deeply interested as any other—in the metal schedule, starting out at the very foundation, iron ore, we have left the duty on that precisely as it exists under the present law, namely, 75 cents per ton, and we left it at the same duty which was proposed by my distinguished friend from Texas (Mr. Mills) in the bill which he presented to the last Congress. The same is also true of coal.

"Pyrites or sulphuret of iron containing in excess of 25 per cent. of sulphur has been put upon the free list. Pig iron, scrap iron, and steel we have left at \$6.72 a ton, the present duty, while the Mills bill made it \$6 per ton. On bar iron the difference between the proposed bill and the Mills bill is one tenth of 1 cent per pound. On round iron not less than three fourths of an inch in diameter the present duty is 1 cent per pound; the Mills bill retained it at that rate, and the present bill reduces the duty to nine tenths of 1 cent per pound. On cast iron pipe the existing law is 1 cent per pound; we have reduced it to nine tenths of 1 cent per pound, and the Mills bill reduced it to six tenths of 1 cent per pound. The existing tariff presents the anomaly of placing a higher duty upon the sheet

iron and steel, which constitute the chief element in the production of tin plate, than upon the tin-plate itself, which is a manifest wrong demanding correction, independent of the question of encouraging the manufacture of tin plate in the United States.

"The duty recommended in the bill is not alone to correct this inequality, but to make the duty on foreign tin plate high enough to insure its manufacture in this country to the extent of our home consumption. The only reason we are not doing it now and have not been able to do it in the past is inadequate duties. We have demonstrated our ability to make it here as successfully as in Wales. We have already made it here. Two factories were engaged in producing tin plate in the years 1873, 1874, and 1875, but no sooner had they got fairly under way than the foreign manufacturer reduced his price to a point which made it impossible for our manufacturers to continue.

"When our people embarked in the business foreign tin plate was selling for \$12 per box, and to crush them out before they were firmly established the price was brought down to \$4.50 per box; but it did not remain there. When the fires were put out in the American mills, and the manufacturing thought by the foreigners to be abandoned, the price advanced, until in 1879 it was selling for \$9 and \$10 a box.

"Our people again tried it, and again the prices were depressed, and again our people abandoned temporarily the enterprise, and as a gentleman stated before the committee, twice they have lost their whole investment through the combination of the foreign manufacturers in striking down the prices, not for the benefit of the consumer, but to drive our manufacturers from the business; and this would be followed by an advance within six months after our mills were shut down.

"We proposed this advanced duty to protect our manufacturers and consumers against the British monopoly, in the belief that it will defend our capital and labor in the production of tin plate until they shall establish an industry which the English will recognize has come to stay, and then competition will insure regular and reasonable prices to consumers. It may add a little temporarily to the cost of tin plate to the consumer, but will eventuate in steadier and more satisfactory prices. At the present prices for foreign tin plate, the proposed duty would not add anything to the cost of the heavier grade of tins to the consumer. If the entire duty was added to the cost of the can it would not advance it more than one third or one half of 1 cent; on a dozen fruit cans the addition would only be about 3 cents.

"Now, Mr. Chairman, the important part of the metal schedule, and that which will probably be most harshly assailed, is that proposed in connection with the duty on tin plate.

"The bill proposes to advance the duty from 1 cent per pound, the present rate, to 185 and 2-15 cents per pound, varying according to gauge.

"We have increased the duty, as I have already said, upon carpet wools, and that has necessitated an increase of the duty upon carpets themselves. The committee believed that this increased duty would be doing even justice

not only to the wool grower, but also to the carpet maker and to the consumers of the United States. There is no industry in this country which so splendidly illustrates the value of a protective tariff as the carpet industry, which has had such marvelous growth in the last twenty-three years.

"In 1810 the entire product of carpets in this country was about 10,000 yards. The tariff of 1828 gave some encouragement, and in 1834 there were twenty carpet factories in the country, operating 511 hand looms producing annually about 1,000,000 yards of carpet. In 1860, under the low tariff, there were only 8,000,000 pounds of wool consumed in making carpets in the United States, and only 13,000,000 yards of carpet were produced, valued at a little over \$7,000,000. Six thousand six hundred and eighty-one hands were employed, and the wages paid were less than a million and a half dollars annually. The value of the plants in 1860 was less than \$5,000,000. Under the tariff of 1867, that first protective tariff law so far as wool and the manufactures of wool were concerned, this industry grew and prospered, and in 1870 there were 215 factories in the United States, valued at over \$12,500,000, consuming more than 33,000,000 pounds of wool, employing 13,000 hands, and paying in wages \$4,681,000 annually, and producing 22,000,000 yards of carpet every twelve months.

"One fourth of our total consumption was imported from England in 1872. In that year there were 170 looms manufacturing body Brussels: in 1880 the manufacture had risen to 590 looms. In 1872 our product in Brussels was 1,275,000 yards; in 1880 we produced over 7,000,000 yards of Brussels carpet. In 1872 we imported 1,500,000 yards of body Brussels; in 1880 we imported only 80,000 yards. We doubled the looms for manufacturing Wiltons between 1870 and 1880.

"Now take tapestry Brussels—the poor man's carpet, if you please. In 1872 we had 143 looms; in 1880 we had increased to 1,073 looms. In 1872 we produced 1,500,000 yards of tapestry Brussels; in 1880 we produced 16,950,000 yards of tapestry Brussels. In 1872 we imported 3,670,000 yards of tapestry Brussels from England; in 1880 we imported only 100,000 yards of tapestry Brussels from England. All this time prices were being reduced. In 1872 the price of body Brussels by the wholesale was over \$2 per yard; in 1880 the wholesale price had gone below \$1.50 a yard, and to-day you can buy them for 93 cents a yard.

"In 1872 tapestry carpets averaged \$1.46 per yard; in 1880 the price had gone down to 90 cents per yard, and to-day you can buy the best quality for 65 cents per yard. The extra super ingrain carpet which in 1872 sold for \$1.20 can be bought to-day for 45 cents per yard, all wool and a yard wide. The total production of carpets in the United States (estimated) in 1880 was 39,972,000 yards; capital invested, \$21,486,000; operatives employed, 30,371; paid out in wages, \$6,435,000. It is estimated that to-day there are 204 carpet factories in this country, running 11,500 looms (of which 7,597 are power looms), employing 43,000 hands, in 1889 consuming over 90,000,000 pounds of wool and turning out 76,880,000 yards of carpet.

"Why, sir, in the city of Philadelphia alone there was produced 20,000,000 yards of carpet annually—16,000,000 less than the entire output of the United Kingdom of Great Britain. And all the while the price of carpet had gone down. But the ad valorem has gone up; and that is what troubles the gentlemen on the other side. It is the high ad valorem that you gentlemen advocating tariff reform keep before your eyes. You shut your eyes to the diminishing prices. The favorite assault of the Democratic free trader or revenue-tariff reformer is to parade these high percentages and ad valorem equivalents to show the enormous burdens of taxation that we impose upon the people of the United States.

"Now, let us look at this for a moment while we are passing. When steel rails were \$100 a ton we had a duty on them of \$28 a ton. What would be the equivalent ad valorem? Twenty-eight per cent. That is not enormous. My friend from Texas even would not hold that as too high an ad valorem equivalent. But the very instant we reduced the price of steel rails to \$50 a ton, because of that duty of \$28, which encouraged our own producers to engage in this business—when the price went down to \$50 a ton the ad valorem equivalent went up to 56 per cent; for \$28 a ton duty, with steel rails at \$50 a ton, would be equivalent to 56 per cent. They are troubled about the ad valorem equivalent. They look to percentages; we look at prices. We would rather have steel rails at \$50 a ton and an ad valorem equivalent of 50 per cent, than to have steel rails at \$100 a ton and an ad valorem equivalent of only 28 per cent. They pursue a shadow; we enjoy the substance. What do we care about ad valorem? But you will hear of high ad valorem in this debate from its beginning to its close.

"Why, sir, when you bought a crate of ware in 1855 at \$96, the ad valorem was only 24 per cent. You buy the same crate of ware to-day for \$46, but the ad valorem has gone up 55 per cent. Which would you rather have, low ad valorem equivalents and high-priced goods, or high ad valorem equivalents and low-priced goods.

"What is the nature of the complaint against this bill? That it shuts us out of a foreign market? No, for whatever that is worth to our citizens will be just as accessible under this bill as under the present law. We place no tax or burden or restraint upon American products going out of the country. They are as free to seek the best market as the products of any rival commercial power, and as free to go out as though we had absolute free trade. Statistics show that protective tariffs have not interrupted our export trade, but that it has increased under them.

"In the year 1843, being the first year after the protective tariff of 1842 went into operation, our exports exceeded our imports \$40,392,229, and in the following year they exceeded our imports \$3,141,226. In the two years following the excess of imports over exports was \$15,475,000. The last year under the tariff the excess of exports over imports was \$34,317,249. So during the five years of the tariff of 1842 the excess of exports over imports was \$62,375,000. Under the low tariff of 1846 this was reversed, and, with the single exception of 1858, the imports ex-

ceeded the exports (covering a period of fourteen years) \$465,553,025.

"During the war and down to 1875 the imports with two exceptions exceeded the exports. From 1876 down to 1889 inclusive (covering a period of fourteen years) there were only two years when our imports exceeded our exports, and the total excess of exports over imports was \$1,581,906,871 of the products of our own people more than we brought into the United States. The balance of trade has been almost uninterruptedly in our favor during the protective-tariff periods of our history, and against us with few exceptions during revenue-tariff periods. This would seem to indicate a healthful business condition with the outside world, resulting from the Republican economic system, and an unhealthy condition, where we had to send money out of the country to pay our balances under the Democratic system. The chief complaint against this bill comes from importers and consignees here, on the one hand, and the foreign merchants and consignors abroad. Why do they complain? Manifestly because in some way this bill will check their business here and increase the business of our own manufacturers and producers; it will diminish the importation of competing foreign goods, and increase the consumption of our home-made goods. This may be a good reason to influence the foreigner to oppose its passage, but is hardly a sound reason why Americans should oppose it.

"If the bill checks foreign importations of goods competing with ours, it will increase our production and necessarily increase the demand for labor at home. This may be a good reason why the cheap labor of other countries should be unfriendly to this bill, but furnishes the best of reasons why the workmen of the United States should favor it as they do. We do not conceal the purpose of this bill—we want our own countrymen and all mankind to know it. It is to increase production here, diversify our productive enterprises, enlarge the field, and increase the demand for American workmen.

"What American can oppose these worthy and patriotic objects? Others not Americans may find justification for doing so. This bill is an American bill. It is made for the American people and American interests.

"The press of other countries have denounced the bill with unmeasured severity, the legislative assemblies of more than one distant country have given it attention in no friendly spirit. It has received the censure of diplomats and foreign powers—for all of which there is manifest reason—it may pinch them, but no American citizen surely can object to it on that account. We are not legislating for any nation but our own; for our people and for no other people are we charged with the duties of legislation. We say to our foreign brethren: 'We will not interfere in your domestic legislation; we admonish you to keep your hands off of ours.'

"Contrast the imports and exports of the United Kingdom under free trade and unrestrained commerce with the imports and exports of the United States. In 1870 the total value of imports and exports of the United Kingdom was \$2,663,020,718; in 1888 it was \$3,336,087,844, an increase in eighteen years of \$672,467,126, equivalent to 25.25 per cent.

"The total value of the imports and exports of the United States in 1870 was \$917,704,421; in 1889, \$1,487,533,027, an increase of \$569,738,606, or an equivalent of 62 per cent., so that it will be observed that under the revenue-tariff system of Great Britain her imports and exports between 1870 and 1888 increased but 25½ per cent., while under the protective system of the United States, which is characterized by our opponents as exclusive and restrictive and like a Chinese wall, the imports and exports of the United States increased between 1870 and 1889 62.8 per cent., a gain over Great Britain of nearly 37 per cent., and we sent out in those years more than we brought in.

"Notwithstanding the complaint that is made about the decadence of our foreign commerce Mulhall informs us that Great Britain's proportion in the foreign commerce in 1830 was 27.2 per cent. of the commerce of the world; but in 1870 it had fallen to 24.5 per cent., and in 1880 Great Britain's proportion was but 21.2 per cent. In 1830 the United States had but 3.7 per cent. of the commerce of the world; in 1870 it had risen to 9.2 per cent.; and in 1880 she had 11.5 per cent. of the foreign commerce of the world.

"While Great Britain lost between 1870 and 1880 13 per cent. of her trade, the United States gained 22 per cent.; and if the United States would give the same encouragement to her merchant marine and her steamship lines as is given by other nations, this commerce on the seas under the American flag would increase and multiply. When the United States will expend from her treasury from five to six millions a year, as do France and Great Britain, to maintain their steamship lines, our ships will plow every sea in successful competition with the ships of the world. Will you, gentlemen, join us in encouraging our merchant marine?

"But, Mr. Chairman, in the presence of our magnificent domestic commerce, the commerce along our inland seas, our lakes and rivers and great railroad lines, why need we vex ourselves about foreign commerce? The domestic trade of the United States is 95 per cent. of the whole of our trade. Nowhere is the progress of the country so manifest as in this wonderful growth and development. Our coasting trade more than doubled our foreign trade in 1880. Thirty-four million tons as against 16,000,000 of foreign, including all our exports and imports, carried in all the ships of the world in 1880. Our inland water tonnage was 25,000,000, our foreign 16,000,000.

"The water carriage of the United States along its coasts and its rivers is five times greater than the foreign commerce of the United States.

"Why, the movement of tonnage through the Detroit river in 1889 was 10,000,000 tons more than the total registered entries and clearances at all the seaports of the United States, and it was 3,000,000 tons in excess of the combined foreign and coastwise registered tonnage of the ports of Liverpool and London. What higher testimony do we want of the growth of our internal commerce?

"We try nations as they appear on the balance sheet of the world. We try systems by results; we are too practical a people for theory.

We know what we have done and are doing under the economic system we advocate. We know that almost every month the balance of trade in our favor is in excess of \$20,000,000. We know the manufactures of the United States in 1880 amounted to \$1,126,000,000, as against \$816,000,000 of Great Britain.

"We know that in 1887 we manufactured 3,339,000 tons of steel rails, and that the manufacturers of England turned out only 3,170,000. We know that the United States in 1887 produced 2,308,000 tons of iron and England 1,711,000 tons. On the Atlantic seaboard there will be produced this year 100,000 tons of steel shipping built in our own ports from our own material.

"Our railroad mileage and tonnage further illustrate the growth and extent of our domestic trade and commerce. In 1865 the number of miles of railroad in operation in this country was 35,085; in 1887 it equaled 150,000 miles. We now have one half of the railroads of the world. Estimating the cost of road and equipment at \$35,000 per mile, the amount expended in twenty-two years equaled \$4,037,495,000, a yearly expenditure of over \$183,000,000. According to Poor's "Manual," the total tonnage for 1882 was 360,490,375 tons; for 1883, 400,453,439 tons; for 1884, 399,074,749 tons; for 1885, 437,040,009 tons; for 1886, 482,245,254 tons; for 1887, 552,074,752 tons.

"According to the statement of Mr. Poor, the tonnage of the Pennsylvania Railroad for 1865 was 2,555,706 tons; in 1887, 30,147,635 tons, the increase equaling 27,591,929 tons; the rate of increase in the twenty-two years being nearly 1,100 per cent. The tonnage of the New York Central Railroad increased from 1,767,059 in 1865 to 14,626,951 in 1887, the rate of increase being over 700 per cent. The tonnage of the Erie Railroad in 1865 was 2,234,350, and in 1887 13,549,260, the rate of increase being over 500 per cent. The tonnage of the three roads in 1865 equaled 6,557,115; in 1887, 58,323,848 tons, the increase equaling 51,766,732, the rate of increase being very nearly 800 per cent.

"Mr. Poor estimates that the net tonnage of 1887 of all the railroads in the country equaled 412,500,000. The number of gross tons moved in 1887 on all the railroads of the United States per head of population equaled 9 tons. In 1865 the gross tonnage moved equaled only 2 tons per head. The same authority estimates that the value of the total net tonnage of the railroads of the United States is equal to the sum of \$13,327,830,000, and at this estimate the value of the tonnage moved in 1887 equaled \$223 per head of the population of the country.

"The increase in value of the railroad tonnage of the country in 1887 equaled \$1,660,000,000, or \$960,000,000 in excess of the value of the exports for the same year. Could all this have been secured under your economic system? Would they have been possible under any other than the protective system?

"We have now enjoyed twenty-nine years continuously of protective tariff laws—the longest uninterrupted period in which that policy has prevailed since the formation of the Federal Government—and we find ourselves at the end of that period in a condition of independence

and prosperity the like of which has never been witnessed at any other period in the history of our country, and the like of which has no parallel in the recorded history of the world.

"In all that goes to make a nation great and strong and independent we have made extraordinary strides. In arts, in science, in literature, in manufactures, in invention, in scientific principles applied to manufacture and agriculture, in wealth and credit and national honor, we are at the very front, abreast with the best and behind none.

"In 1860, after fourteen years of a revenue tariff, just the kind of a tariff that our political adversaries are advocating to-day, the business of the country was prostrated, agriculture was deplorably depressed, manufacturing was on the decline, and the poverty of the Government itself made this nation a by-word in the financial centers of the world.

"We neither had money nor credit. Both are essential; a nation can get on if it has abundant revenues, but if it has none it must have credit. We had neither, as the legacy of the Democratic revenue tariff. We have both now. We have a surplus revenue and a spotless credit. I need not state what is so fresh in our minds, so recent in our history, as to be known to every gentleman who hears me, that from the inauguration of the protective tariff laws of 1861, the old Morrill tariff—which has brought to that veteran statesman the highest honor and will give to him his proudest monument—this condition changed. Confidence was restored, courage was inspired, the Government started upon a progressive era under a system thoroughly American.

"With a great war on our hands, with an army to enlist and prepare for service, with untold millions of money to supply, the protective tariff never failed us in a single emergency, and while money was flowing into our Treasury to save the Government, industries were springing up all over the land—the foundation and cornerstone of our prosperity and glory.

"With a debt of over \$2,050,000,000 when the war terminated, holding on to the protective laws against Democratic opposition, we have reduced that debt at an average rate of more than \$62,000,000 each year, \$174,000 every twenty-four hours of the last twenty-five years, and what looked to be a burden almost impossible to bear has been removed under the Republican fiscal system until now it is \$1,020,000,000, and with the payment of this vast sum of money the nation has not been impoverished. The individual citizen has not been burdened or bankrupted. National and individual prosperity have gone steadily on until our wealth is so great as to be almost incomprehensible when put into figures.

"The accumulations of the laborers of the country have increased, and the working classes of no nation in the world have such splendid deposits in savings banks as the working classes of the United States.

"Listen to its own story. The deposits of all the savings banks of New England in 1886 equaled \$554,532,434. The deposits in the savings banks of New York in 1886 were \$482,686,730. The deposits in the savings banks of Mas-

sachusetts for the year 1887 were \$302,948,624, and the number of depositors was 944,778, or \$320.67 for each depositor. The savings banks of nine States have in nineteen years increased their deposits \$628,000,000. The English savings banks have in thirty-four years increased theirs \$350,000,000. Our operatives deposit \$7 to the English operative's \$1. These vast sums represent the savings of the men whose labor has been employed under the protective policy which gives, as experience has shown, the largest possible reward to labor.

"There is no one thing standing alone that so surely tests the wisdom of a national financial policy as the national credit, what it costs to maintain it, and the burden it imposes upon the citizen. It is a fact which every American should contemplate with pride that the public debt of the United States per capita is less than that of any other great nation of the world. Let me call the roll: Belgium's public debt, per capita, is \$72.18; France, \$218.27; Germany, \$43.10; Great Britain, \$100.00; Italy, \$74.25; Peru, \$140.06; Portugal, \$104.18; Russia, \$35.41; Spain, \$73.34; United States, \$33.92 on a population of 50,000,000; and now, with our increased population, the per capita would be under \$25. England increased her rate of taxation between 1870 and 1880 over 24 per cent., while the United States diminished nearly 10 per cent.

"We lead all nations in agriculture, we lead all nations in mining, and we lead all nations in manufacturing. These are the trophies which we bring after twenty-nine years of a protective tariff. Can any other system furnish such evidences of prosperity? Yet in the presence of such a showing of progress there are men everywhere found who talk about the restraints we put upon trade and the burdens we put upon the enterprise and energy of our people. There is no country in the world where individual enterprise has such wide and varied range and where the inventive genius of man has such encouragement.

"There is no nation in the world, under any system, where the same reward is given to the labor of men's hands and the work of their brains as in the United States. We have widened the sphere of human endeavor and given to every man a fair chance in the race of life and in the attainment of the highest possibilities of human destiny.

"To reverse this system means to stop the progress of the republic and reduce the masses to small rewards for their labor, to longer hours and less pay, to the simple question of bread and butter. It means to turn them from ambition, courage, and hope, to dependence, degradation, and despair. No sane man will give up what he has got, what he is in possession of, what he can count on for himself and his children, for what is promised by your theories.

"Free trade, or, as you are pleased to call it, 'revenue tariff,' means the opening up of this market, which is admitted to be the best in the world, to the free entry of the products of the world. It means more—it means that the labor of this country is to be remitted to its earlier condition, and that the condition of our people is to be leveled down to the condition of rival

countries; because under it every element of cost, every item of production, including wages, must be brought down to the level of the lowest paid labor of the world. No other result can follow, and no other result is anticipated or expected by those who intelligently advocate a revenue tariff. We can not maintain ourselves against unequal conditions without the tariff, and no man of affairs believes we can.

"Under the system of unrestricted trade which you gentlemen recommend, we will have to reduce every element of cost down to or below that of our commercial rivals or surrender to them our own market. No one will dispute that statement, and to go into the domestic market of our rivals would mean that production here must be so reduced that with transportation added we could undersell them in their own market, and to meet them in neutral markets and divide the trade with them would mean that we could profitably sell side by side with them at their minimum price.

"First, then, to retain our own market under the Democratic system of raising revenue by removing all protection would require our producers to sell at as low a price and upon as favorable terms as our foreign competitors. How could that be done? In one way only, by producing as cheaply as those who would seek our markets. What would that entail? An entire revolution in the methods and condition and conduct of business here, a leveling down through every channel to the lowest line of our competitors; our habits of living would have to be changed, our wage cut down 50 per cent. or upward, our comfortable homes exchanged for hovels, our independence yielded up, our citizenship demoralized.

"These are conditions inseparable to free trade; these would be necessary if we would command our own market among our own people, and if we would invade the world's markets harsher conditions and greater sacrifices would be demanded of the masses. Talk about depression, we would then have it in its fullness. We would revel in unrestrained trade. Everything would indeed be cheap, but how costly when measured by the degradation which would ensue! When merchandise is the cheapest men are the poorest, and the most distressing experiences in the history of our country—ay, in all human history—have been when everything was the lowest and cheapest measured by gold, for everything was the highest and the dearest measured by labor. We want no return of cheap times in our own country. We have no wish to adopt the conditions of other nations. Experience has demonstrated that for us and ours and for the present and the future the protective system meets our wants, our conditions, promotes the national design, and will work out our destiny better than any other."

In opposition to the measure, Mr. Mills, of Texas, said: "There are two opposing opinions, supported by the two opposing parties into which the people of the United States are divided, with reference to the proper construction of laws imposing taxes on imports. The Democratic party maintains that taxes should be imposed on such articles and at such rates as will bring the required revenue for an honest

and economical administration of the Government with the least possible restrictions upon importations, the least possible limitation upon exportation, and the least possible interference with the private business of the people.

"The Republican party maintains that taxation ought to be imposed on such articles and at such rates as will produce the largest possible restriction on importation consistent with the production of the necessary revenues for the support of the Government. With the Republican party the primary object in imposing taxes upon imports is, in the frank language of the committee who have reported this bill, to check importation. The secondary object is to obtain the required revenue from the smallest amount of importation and as far as possible from competing articles.

"The bill which the committee have reported is a bold and unequivocal declaration of that doctrine; and, while we have heard all through our history the advantages of protection against competition proclaimed by its advocates, this bill is the first in the history of the Government that has come before the American people with its mask thrown off and with the audacity of a highwayman demanding that the people shall throw up their hands and surrender their purses.

"It is necessary, Mr. Chairman, to examine the proposition upon which this most extraordinary measure is founded. Is it for the benefit of the American people that importation shall be checked or hindered? Will it promote their interests to stop their trade? Will it feed more mouths; will it clothe more backs; will it give more shelter to their heads to stop them from marketing the products of their labor? For that is the position assumed by the advocates of the bill and the party which they represent.

"To check importation is to check exportation, and gentlemen may split hairs and ride sophistries just as much as they please, but no man can call to mind a trade that has ever been effected either between two individuals or between two nations where each did not give something in exchange for that which he received. You may bestow upon another something without a return; that is a gift. But no people are laboring to give their products without consideration to others. The great body of the people of the world are laboring in order to obtain profit for their toil, and when they transfer something to another it is for something received from that other in return. You can not make it any other way, and no amount of sophistry will change the plain, common-sense statement.

"Two years ago, when Democrats told you that the country was on the edge of a dark shadow that was stretching itself over the land, that our agriculture was being pressed to the wall, that all our prosperity was based upon it, and we were recklessly draining the life current from its veins, one statesman after another arose on the other side of the hall and asserted that our farmers were in the very heyday of prosperity, and that the mortgages on their farms were only evidences of their thrift, of the improvement of their farms, and the increase of their wealth.

"But we do not hear these statements now,

These gentlemen are on their knees at the confessional now. They now tell us that there is widespread depression all through the agricultural sections of the country. The committee tell us they have spent months in a critical examination of the subject, and they have come to the conclusion that the all-pervading distress is due to 'a most damaging foreign competition.' They say that there is \$356,000,000 worth of agricultural products imported from foreign countries and displacing that amount of American products.

"Against this most damaging competition the barriers should be put up. What are these foreign agricultural products? The first is sugar, of which we import \$95,000,000 worth. What did our friends do with it? Did they 'put up the barriers,' as they did for woolens and cottons and iron and steel? While they were building up the tariff wall and giving protection to the manufacturers and even the refiners, they did not walk up like little men and take sugar in theirs.

"Why did they not shelter sugar against this damaging competition as they did others? Why did they not try and 'naturalize' this infant that is still mewling and puking in its nurse's arms? Why not put a prohibitory duty on foreign sugar and develop the industry? It might have required two or three hundred per cent. duty, but the gentleman from Ohio, speaking for his party, tells us they do not care for per cents.

"But, strange to say, they have put sugar on the free list. They have removed all the barriers and exposed it to the floods of pauper sugar from foreign lands. And to soothe the coquetted and jilted sugar growers they propose to take seven millions of money that does not belong to them out of the pockets of the people to pay for the privilege of doing it.

"What is the next article embraced in the \$356,000,000 of agricultural products coming in to destroy the prosperity of the farmer? Seventy-five million dollars' worth of coffee. Coffee was put on the free list eighteen years ago by a Republican Congress. Why did you not put a prohibitory duty on coffee and naturalize it in this country? It can be grown in glass houses. You do not care anything about the expense of labor in the production of an article. It is purely a question of patriotism with you, and why not make the people of the United States pay for naturalizing this foreigner from Brazil? But while acknowledging the perilous situation in which our farmers are placed, you left coffee bravely on the free list.

"What is the next article? One of which we have heard much within the past two months—an article called hides; perhaps you have heard of it before. During the canvass last fall in the State of Iowa, where my friend here (Mr. Gear) lives, when the Democratic party was driving in the pickets of the Republicans on the tariff question—when we were exposing the alarming and perilous condition of the farmer, cut off from his market, with his enormous surplus, what did our Republican friends do? In order to turn our flank—a great military manoeuvre—our friends all through the State of Iowa, on every stump, at every cross-roads, wherever there were two or three brethren assembled to-

gether, they were in the midst of them undertaking to console the distress of the farmer by telling him: "We propose to give agriculture protection; we intend to put a protective duty on hides. We intend to pull the agriculturist out of the swamp in which he has been struggling. We do not intend to submit to the dictation of these Eastern fellows who have been leading so long."

"But where now are protected hides? Echo answers 'where?' They are out in the cold world and no friendly hand to shelter or protect them. Hides bobbed up a while and appeared on the bill with a little sickly duty of 15 per cent., and then serenely bobbed down again. Sometimes you saw them and sometimes you did not, and after they had played through several acts to the great delight of the audience, the bell rang down the curtains and hides bowed themselves back to the green room and took their place on the free list, where our Republican friends always designed they should.

"Why did you not protect hides? If you had put a duty on hides as high as you put on tin plate and cotton ties, over 100 per cent., you could have excluded all the foreign hides and increased the value of all the hides in the Western States. Why did you not do it? You never intended to do it. They are not the folks you are after, except to fool them.

"Now, I do not believe in protecting hides or anything else against competition. I am for free raw material, and I am for putting a low revenue duty on the finished product that goes to the consumer, for that is the cheapest taxation you can impose upon him. But you increase the duty on wool, and you take camels' hair off the free list and put it upon the dutiable list, and you do that because you say it displaces a certain amount of wool, and you put the duty on to check its importation. You increase the duty on wool in order to develop the shoddy industries of the country, and judging from the price you put upon wool and woolen goods in the judgment of the Republican party to wear a piece of woolen goods is a crime in this country.

"Two years ago a gentleman made a statement to our committee reonstrating against putting wool on the free list, which we were proposing to do, in order to give greater employment and cheaper clothing to our people, because the duty on wool, he said, had developed a great American industry in this country, which was the manufacture of shoddy. He said we have \$15,000,000 of capital invested in manufacturing shoddy goods and employing in that branch of labor 100,000 hands. And, Mr. Chairman, just in proportion as we have developed the shoddy business we have destroyed the woolen business.

"What other article of agriculture have you taken care of? There is \$19,000,000 worth of silk, and that is counted in making up the three hundred and fifty-six, I suppose. That is a part of the enormous sum which threatens destruction to American agriculture. Why did you not put a duty on it and prohibit its importation? Why do you dodge the question by putting a bounty on raw silk? A prohibitory duty is a thing that would have brought it to its feet if anything could have done it. Exposed as it is to the most

damaging foreign competition, you turned your back upon it and left it on the free list.

"You leave tea on the free list. If it is imperiling the agricultural interests of the country, why did you not protect it? Why not put a prohibitory duty on tea and develop the sassafras industry in this country. But you did not do it. You have got five or six million dollars' worth of tropical fruits on the free list. Why did you not put on a prohibitory duty, stimulate domestic production, and protect it against damaging competition?

"We have \$3,000,000 worth of live animals that come in competition, you say, with our stockmen and farmers. But you walk away after telling the farmers all about their damaging competition and leave them on the free list. You found some of them on the free list and you left them there; and you found some horses coming over from Mexico. The import value of each was something over eight dollars, and you have put a duty of over thirty dollars a head on them. You do not mind per cents., nor care how high they are upon the ponies with which the poor cattle men of Arizona, New Mexico, and Texas have to herd their stock; and you call that protecting American industries. They will have too much sense to believe you when you go to talk any such music as that in their ears.

"The committee are greatly alarmed about our wheat growers. That great industry is imperiled by 'a most damaging competition.' The American market must be kept for our own farmers and it must be held at all hazards; and, like heroes advancing to the attack, they have scaled the walls, entered the city, and spiked the enemy's guns. They have increased the duty on wheat and that great product is safe. How many bushels of wheat are imported into this country? We exported last year 90,000,000 bushels in wheat and flour. In 1880 and 1881 we exported 150,000,000 bushels; but since then our importations have been falling off, and that has caused a reduction in our exportations; and last year we exported only 90,000,000 bushels and imported the inconsiderable amount of 1,946 bushels of wheat. And that duty has been put on to protect American farmers against the damaging foreign competition from India and Russia.

"What did that 1,946 bushels of wheat cost? Our wheat was at an average export price of 89 cents per bushel, and the average price of the 1,946 bushels which we imported was \$2.05. Seven hundred bushels cost in Germany \$3.20 a bushel. What do you suppose that wheat was imported for? Do not all speak at once, please.

"It was seed wheat, imported by the wheat grower of the West to improve his seed. Does not every man know that? And you have made it cost him that much more to improve his agricultural product so that he can raise a better character of wheat and better compete in the markets of the world, where he has to meet all comers in free competition. He knows that the man who can produce the best article and sell at the lowest price will drive his rival out of the market. You have tried to fool him by telling him you are securing him in the enjoyment of the home market.

"One thousand nine hundred and forty-six bushels of wheat!

"We exported 69,000,000 bushels of corn last year and we imported into this country 2,388 bushels, an amount, we are told, that imperils the market of those who raise 2,000,000,000 bushels. Why, it could all be raised in Texas by one farmer on 50 acres of ground. That corn came from Mexico into New Mexico, Arizona, and Texas, along the border, and if you cut it out you can not supply a single bushel of it from any of the corn-producing parts of the country, because the cost of transportation would be so great that they can not import it; and if they can not get this I suppose they can eat grass and go naked.

"Why, sir, we can not supply that corn from Texas, because the transportation from the settled part of the State to the boundaries on the Rio Grande would cost too much, and this market is supplied by the little contiguous farms lying along the Rio Grande and along the border of Mexico, whence it is brought into our country. But this is all to be stopped. And why? Oh, but you are proposing to protect the farmer and dissipate all his alarm. You are going to stretch your arms around him and pour sweet words of comfort into his ears. You are going to tell him that he shall not be disturbed by the foreign pauper, who shall not be allowed to bring in pauper rye to compete with him.

"How much rye did we import last year? Sixteen bushels! It could all have been raised on a turnip patch. What did it cost? It cost in Germany, whence it came, \$1.50 a bushel; while the rye that we exported from this country cost 57 cents a bushel, and we exported 237,252 bushels. The Republican party thinks that when a farmer goes outside of this country and buys some improved wheat and rye to better his crop he is moved and instigated by the devil; and he is to be rebuked for his temerity in the Capitol of the nation. He ought to have gone and bought rye that was not worth more than two bits a bushel from somebody in this country, because it was American rye and covered by the flag of the country.

"But, Mr. Chairman, when we stand in the midst of this great overshadowing peril to the farmer; when we review item by item the steps which have been planned for his redemption, I must confess that I owe a tribute to the majority of the Ways and Means Committee for one bold, audacious, gallant move which strikes the key note of agricultural emancipation. Whatever else they have left undone, they have rescued one great American industry. When they saw the enemy in force at the gates they cried to the guard: 'Raise the drawbridge and let the portcullis fall and save the cabbage patch.'

"They have placed a protective duty of three cents a head on the great American cabbage, and that is to be a panacea for all the farmer's ills. All fears are now dispelled and the American farmer can now stand in the midst of his cabbage patch and defy 'the world, the flesh, and the devil.'

"Now, let us come to the real question, what is necessary to protect our farmers; for let me say to you in all frankness, my friends, they are not going to be fooled any longer. They are sounding their notes of distress, their eyes are opening, and you must try something more sub-

stantial than amusing them with toys. They are beginning to understand that they have not markets sufficient for their products at home, and you interdict them from going to foreign markets.

"Some days ago the question was asked, 'What law is there on the statute book that prevents the farmer from exporting his products?' I say that the tariff law approved March 3, 1883, does. For years we have had high duties, and as they are in the main specific, as the cost of production goes down the tariff goes up, and importation falls off, and that shuts off exportation.

"Mr. Chairman, there is another new feature in this most extraordinary bill. Our friends have started the policy of giving a bounty on production. Where did they get the money which they dispense with such lavish prodigality? Is it from their own pockets? Is it their own money? Did they make it by their own labor? How many drops of sweat have they poured out over these dollars that they propose to take by the million from the Treasury and throw at the feet of their favorites? Where did it come from? It was extorted from the pockets of the poor laboring people of the country by excessive rates of taxation which they have not hesitated to still further advance. And they now give \$7,000,000 as a bounty for the production of sugar.

"Well, the people of this country who are raising corn and cotton and wheat and oats and hogs and bees will all step up to the counter and say: 'We will take sugar in ours, too.' I want to see you give this bounty, and when you do you will slip away from it worse than you did from hides; I want to see you give it, and if the American people do not take the hides off you, I will be mistaken. Yes, they will put every Republican hide on the free list.

"Why not give bounty to the people who are burning their corn for fuel in Kansas? They need your help. No man now dares to rise here and speak for the State of Kansas as was done two years ago, when it was said that the farmers of Kansas were in the very heyday of their prosperity and were all getting rich. We do not hear those fine speeches any more. Egyptian darkness is all around them now. No ray of light can penetrate the thick veil that shrouds the land. Bankruptcy stares every farmer in the face, and dark as is the night, he can see its repulsive features and feel the cold touch of its hand.

"And yet, Mr. Chairman, in the midst of this 'widespread depression' our friends, after putting a high duty on every article, every necessary of life which enters into his humble home, propose, in addition, to compel him to pay tribute to sugar growers, to swell their fortunes while he shrinks in his poverty. They ram their hands up to the shoulder in his pocket, and take \$7,000,000 and give it as a bounty to somebody to raise sugar.

"You are going to give bounties on steamships, too. My friend from Ohio spoke most eloquently, as he always does, in advocacy of bounties to steamships. He said we ought to check importations, obstruct foreign trade; that it is demoralizing our labor; that we ought to build up home markets and home trade; and

yet he maintains that we ought to have a bounty on American ships, so as to put our flag on the sea and increase our foreign commerce. I want, Mr. Chairman, to see the flag of the Union on all the waters of all the seas and under all the skies that cover the earth; I want to see it in all the ports and harbors of the globe; but when it goes out I want to see it go as a symbol of American institutions, covering a free ship, protecting free commerce, and representing free men. I do not want to bribe anybody to put an old hulk on the ocean. I do not want to hire anybody to display our flag somewhere in the world. When that proud emblem of our country goes into the nethermost parts of the earth, on all the seas and among all the nationalities and tongues of the globe, I want to see it riding as free as the air and as fearless as the eagle that nestles in its folds, the symbol of the proudest and the freest people in the world—a people whose liberty and genius and spirit have enabled them to carry their commerce wherever they please.

"Gentlemen, you can pass your bill. You can pass it when you please; but whenever it does pass it will have a Hell Gate to go through after it leaves the House and Senate. There is a whirlpool with sunken rocks beneath the surface of the water through which your little craft will have to sail. The American people have intelligence, and they have been perfected through suffering. And they are ready now, and in the proper frame of mind, to take the scorpion's lash and drive the money-changers from their temple."

We give these extracts from two of the leading speeches, as any general description of the debate would be out of the question. The bill, after being amended in some respects, was passed by the House May 21, by the following vote:

YEAS—Adams, Allen of Michigan, Anderson of Kansas, Arnold, Atkinson of Pennsylvania, Atkinson of West Virginia, Baker, Banks, Bartine, Bayne, Beckwith, Belden, Belknap, Bergen, Bingham, Bliss, Boothman, Boutelle, Bowden, Brewer, Brosius, Brower, T. M. Browne, Browne of Virginia, Buchanan of New Jersey, Burrows, Burton, Butterworth, Caldwell, Candler of Massachusetts, Cannon, Carter, Caswell, Chadler, Cheatham, Clark of Wisconsin, Cogswell, Comstock, Conger, Cooper of Ohio, Craig, Culbertson of Pennsylvania, Cutcheon, Dalzell, Darlington, De Haven, De Lano, Dingley, Dolliver, Dorsey, Dunnell, Evans, Ewart, Farquhar, Finley, Flick, Flood, Frank, Funston, Gear, Gest, Gifford, Greenhalge, Grosvenor, Hall, Hansbrough, Harmer, Haugen, Henderson of Illinois, Henderson of Iowa, Hermann, Hill, Hiitt, Hopkins, Houk, Kelley, Kennedy, Kerr of Iowa, Ketcham, Kinsey, Knapp, Lacey, La Follette, Laidlaw, Lansing, Laws, Lichbach, Lind, Lodge, Mason, McComas, McCord, McCormick, McKenna, McKinley, Miles, Milliken, Moffitt, Moore of New Hampshire, Morey, Morrill, Morrow, Morse, Mudd, Nidringhaus, Nute, O'Donnell, O'Neill of Pennsylvania, Osborne, Owen of Indiana, Payne, Perkins, Pickler, Post, Pugsley, Quackenbush, Raines, Randall, Ray, Reayburn, Rife, Rockwell, Rowell, Russell, Sanford, Sawyer, Scranton, Seull, Sherman, Simonds, Smith of Illinois, Smith of West Virginia, Smyser, Snider, Spooner, Stephenson, Stewart of Vermont, Stivers, Stockbridge, Struble, Sweeney, Taylor of Illinois, Taylor of Tennessee, E. B. Taylor, J. D. Taylor, Thomas, Thompson, Townsend of Colorado, Townsend of Pennsylvania, Vandever, Van Schaick, Waddill, Wade, Walker of Massachusetts, Wallace of Massa-

chusetts, Wallace of New York, Watson, Wheeler of Michigan, Wickham, Williams of Ohio, Wilson of Kentucky, Wilson of Washington, Wright, Yardley—164.

NAYS—Abbott, Alderson, Allen of Mississippi, Anderson of Mississippi, Andrew, Barnes, Barwig, Biggs, Blanchard, Bland, Blount, Boatner, Breckenridge of Arkansas, Breckinridge of Kentucky, Brickner, Brookshire, J. B. Brown, Brunner, Buchanan of Virginia, Buckalew, Bunn, Bynum, Campbell, Candler of Georgia, Carlisle, Carlton, Caruth, Catchings, Chipman, Clancy, Clarke of Alabama, Clements, Clunie, Cobb, Coleman, Cooper of Indiana, Covert, Cowles, Crain, Crisp, Culbertson of Texas, Cummings, Dargan, Davidson, Dibble, Dockery, Dunphy, Edmunds, Elliott, Ellis, Enloe, Featherston, Fitch, Fithian, Flower, Forman, Forney, Fowler, Geissenhainer, Gibson, Goodnight, Grimes, Hare, Hatch, Hayes, Haynes, Heard, Hemphill, Henderson of North Carolina, Herbert, Holman, Kerr of Pennsylvania, Latham, Lee, Lester of Georgia, Lester of Virginia, Lewis, Magner, Maish, Mansur, Martin of Indiana, Martin of Texas, McAdoo, McCarthy, McClammy, McClellan, McCreary, McMillin, McKee, Mills, Montgomery, Moore of Texas, Morgan, Mutchler, Oates, O'Ferrall, O'Neil of Massachusetts, Outhwaite, Owens of Ohio, Parrett, Paynter, Peel, Penington, Perry, Pierce, Price, Quinn, Reilly, Richardson, Robertson, Rogers, Rowland, Rusk, Sayers, Seney, Shively, Skinner, Springer, Stahlnecker, Stewart of Georgia, Stewart of Texas, Stone of Kentucky, Stump, Tarsney, Tillman, Tracey, Tucker, Turner of Georgia, Turner of New York, Turpin, Venable, Washington, Wheeler of Alabama, Whiting, Whitthorne, Wike, Wilkinson, Wilcox, Williams of Illinois, Wilson of Missouri, Wilson of West Virginia, Yoder—142.

NOR VOTING—Bankhead, Bullock, Connell, Cottrill, Grout, Hooker, Kilgore, Lane, Lawler, Norton, O'Neill of Indiana, Payson, Peters, Phelan, Reed of Iowa, Spinola, Stockdale, Stone of Missouri, Turner of Kansas, Walker of Missouri, Wiley—21.

On May 23, the measure was referred to the Finance Committee of the Senate, and June 18, the chairman, Senator Morrill, of Vermont, reported it back with many amendments, the principal one being a rejection of the proposed reduction in internal revenue.

As passed by the House the bill was especially unfavorable to the scheme for reciprocity entertained by the State Department; and June 19, the President sent the following message to Congress:

To the Senate and House of Representatives:

I transmit herewith for your information a letter from the Secretary of State inclosing a report of the International American Conference which recommends that reciprocal commercial treaties be entered into, between the United States and the several other republics of this hemisphere.

It has been so often and so persistently stated that our tariff laws offered an insurmountable barrier to a large exchange of products with the Latin-American nations that I deem it proper to call especial attention to the fact that more than 87 per cent. of the products of those nations sent to our ports are now admitted free. If sugar is placed upon the free list, practically every important article exported from those states will be given untaxed access to our markets, except wool. The real difficulty in the way of negotiating profitable reciprocity treaties is that we have given freely so much that would have had value in the mutual concessions which such treaties imply. I can not doubt, however, that the present advantages which the products of these near and friendly states enjoy in our markets—though they are not by law exclusive—will, with other considerations, favorably dispose them to adopt such measures, by treaty or other-

wise, as will tend to equalize and greatly enlarge our mutual exchanges.

It will certainly be time enough for us to consider whether we must cheapen the cost of production by cheapening labor in order to gain access to the South American markets when we have fairly tried the effect of established and reliable steam communication and of convenient methods of money exchanges. There can be no doubt, I think, that with these facilities well established, and with a rebate of duties upon imported raw materials used in the manufacture of goods for export our merchants will be able to compete in the ports of the Latin-American nations with those of any other country.

If, after the Congress shall have acted upon pending tariff legislation, it shall appear that under the general treaty-making power, or under any special powers given by law, our trade with the states represented in the conference can be enlarged, upon a basis of mutual advantage, it will be promptly done.

BENJ. HARRISON.

EXECUTIVE MANSION, June 19, 1890.

The following is the inclosed report from the Secretary of State:

DEPARTMENT OF STATE,
Washington, June 4, 1890.

To the President:

I beg leave to submit herewith the report upon "Customs Union" adopted by the International American Conference.

The act of Congress, approved May 24, 1888, authorizing the President to invite delegates to this conference, named as one of the topics to be considered, "Measures toward the formation of an American Customs Union, under which the trade of the American nations shall, so far as possible and profitable, be promoted."

The committee of the conference to which this topic was referred interpreted the term "Customs Union" to mean an association or agreement among the several American nations for a free interchange of domestic products, a common and uniform system of tariff laws, and an equitable division of the customs dues collected under them.

Such a proposition was at once pronounced impracticable. Its adoption would require a complete revision of the tariff laws of all the eighteen nations, and most, if not all, of our sister republics are largely, if not entirely, dependent upon the collection of customs dues for the revenue to sustain their governments. But the conference declared that partial reciprocity between the American republics was not only practicable, but "must necessarily increase the trade and the development of the material resources of the countries adopting that system, and it would in all probability bring about as favorable results as those obtained by free trade among the different States of this Union."

The conference recommended, therefore, that the several governments represented negotiate reciprocity treaties "upon such a basis as would be acceptable in each case, taking into consideration the special situations, conditions, and interests of each country, and with a view to promote their common welfare."

The delegates from Chili and the Argentine Republic did not concur in these recommendations, for the reason that the attitude of our Congress at that time was not such as to encourage them to expect favorable responses from the United States in return for concessions which their Government might offer. They had come here with an expectation that our Government and people desired to make whatever concessions were necessary and possible to increase the trade between the United States and the two countries named. The President of the Argentine Republic, in communicating to his Congress the appointment of delegates to the International Conference, said:

"The Argentine Republic feels the liveliest interest in the subject, and hopes that its commercial rela-

tions with the United States may find some practical solution of the question of the interchange of products between the two countries, considering that this is the most efficacious way of strengthening the ties which bind this country with that grand republic whose institutions serve us as a model."

It was therefore unfortunate that the Argentine delegates, shortly after their arrival in Washington, in search of reciprocal trade, should have read in the daily press that propositions were pending in our Congress to impose a heavy duty upon Argentine hides, which for many years had been upon the free list, and to increase the duty on Argentine wool. Since the adoption of the recommendations of the conference, which I herewith inclose, hides have been restored to the free list, but the duty upon carpet wool remains, and, as the Argentine delegates declared, represents the only concession we have to offer them in exchange for the removal of duties upon our peculiar products.

Only those who have given the subject careful study realize the magnitude of the commerce of these sister nations. In 1888 the combined imports of Chili and the Argentine Republic reached the enormous sum of \$233,127,698. The statistics of Chilean commerce for 1889 have not yet been received, but the imports of the Argentine Republic for that year were \$143,000,000. These imports consisted in the greater part of articles that could have been furnished by the manufacturers of the United States, yet in 1888, of the total of \$233,000,000 imports, we contributed but \$13,000,000; while England contributed \$90,000,000; Germany, \$43,000,000; and France, \$34,000,000.

With our extraordinary increase in population, and even more extraordinary increase in material wealth, our progress in trade with South America has been strangely hindered and limited.

In 1868 our total exports to all the world were \$375,737,000, of which \$53,197,000 went to Spanish America, 14 per cent.

In 1888 our exports to all the world were \$742,368,000, an increase of 100 per cent., while but \$69,273,000 went to Spanish America, little more than 9 per cent.; and the greatest gain (nine millions) has been noticed during the last two years.

It was the unanimous judgment of the delegates that our exports to these countries and to the other republics could be increased to a great degree by the negotiation of such treaties as are recommended by the conference. The practical, every-day experience of our merchants engaged in the trade demonstrates beyond a question that in all classes of merchandise which we have long and successfully produced for export, they are able to compete with their European rivals in quality and in price; and the reiterated statement that our Latin-American neighbors do not buy of us because we do not buy of them, or because we tax their products, has been annually contradicted by the statistics of our commerce for a quarter of a century. The lack of means for reaching their markets has been the chief obstacle in the way of increased exports. The carrying trade has been controlled by European merchants who have forbidden an exchange of commodities. The merchandise we sell in South America is carried there in American ships, or foreign ships chartered by American commission houses. The merchandise we buy in South America is brought to us in European vessels that never take return cargoes, but sail for Liverpool, Havre, Bremen, or Hamburg with wheat, corn, and cotton. There they load again with manufactured goods for the South American markets, and continue their triangular voyages, paying for the food they are compelled to buy of us with the proceeds of the sale of their manufactures in markets that we could and would supply if we controlled the carrying trade.

France taxes imports as we do, and in 1880, her merchants suffered, as ours do now, for the lack of transportation facilities with the Argentine Republic. Under liberal encouragement from the Government direct and regular steamship lines were established

between Havre and Buenos Ayres, and as a direct and natural result, her exports increased from \$9,292,872 in 1880 to \$22,996,000 in 1888.

The experience of Germany furnishes an even more striking example. In 1880 the exports from Germany to the Argentine Republic were only \$2,365,152. In 1888 they were \$13,810,000. "This result," writes Mr. Baker, our most useful and intelligent consul at Buenos Ayres, "is due, first, to the establishment of quick and regular steam communication between the two countries; second, to the establishment of branch houses by German merchants and manufacturers; and third, to the opening of a German Argentine bank to facilitate exchange."

There is no direct steamship communication whatever between the United States and the Argentine Republic; and there are no direct banking facilities. The International American Conference has earnestly recommended the establishment of both; but reciprocal exchanges of tariff concessions will be equally effective in stimulating commerce and in increasing the export of the products of which we have the largest surplus not only to the progressive republic named, but to all the other American nations.

The conference believed that while great profit would come to all the countries if reciprocity treaties should be adopted, the United States would be by far the greatest gainer. Nearly all the articles we export to our neighbors are subjected to heavy customs taxes; so heavy, in many cases, as to prohibit their consumption by the masses of the people. On the other hand, more than 87 per cent. of our imports from Latin America are admitted free, leaving but 12 per cent. upon which duties may still be removed. But mindful of the fact that the United States has, from time to time, removed the duties from coffee, cocoa, India-rubber, hides, cinchona bark, dye and cabinet woods, and other Latin-American products, our Government may confidently ask the concession suggested.

The increased exports would be drawn alike from our farms, our factories, and our forests. None of the Latin-American countries produce building lumber; the most of them are dependent upon foreign markets for their breadstuffs and provisions; and in few is there any opportunity or inclination for mechanical industry.

The effect of such reciprocity would be felt in every portion of the land. Not long ago the Brazilian Mail Steamship Company took the trouble to trace to its origin every article that composed the cargo carried by one of its steamers to Rio de Janeiro, and the investigation disclosed the fact that thirty-six States and Territories contributed to the total, as follows:

New York.....	\$74,546 00	North Carolina...	\$2,647 00
Vermont.....	96 00	Maryland.....	2,829 00
Delaware.....	20,908 00	Mississippi.....	2,056 00
Illinois.....	19,231 47	Louisiana.....	2,111 00
New Jersey.....	17,054 40	Wyoming.....	1,800 00
Pennsylvania.....	48,065 00	Oregon.....	1,183 00
Connecticut.....	11,574 00	Tennessee.....	1,150 00
Kansas.....	11,832 00	Iowa.....	807 00
Indiana.....	9,098 00	South Carolina.....	687 00
Massachusetts.....	7,190 00	Kentucky.....	781 00
Ohio.....	6,230 00	Wisconsin.....	576 00
New Hampshire.....	6,095 00	California.....	289 00
Missouri.....	5,773 00	Dakota.....	220 00
Georgia.....	5,096 00	Texas.....	162 00
Rhode Island.....	4,020 00	Nebraska.....	125 00
Michigan.....	3,732 00	Alabama.....	56 00
Virginia.....	3,704 54	Florida.....	40 00
Maine.....	2,765 00		
Minnesota.....	2,668 00	Total.....	\$901,417 41

The 12 per cent. of our imports from Latin America upon which duties are still assessed consists only of raw sugar and the coarse grades of wool used in the manufacture of carpets.

The sugar-growing nations comprise four fifths or forty millions, of Latin America; but with geographical conditions against them, their free labor can not successfully compete with the coolie labor of the European colonies. A slight discrimination in their favor would greatly stimulate their agricultural inter-

ests, enlarge their purchasing power, and tend to promote friendly sentiments and intercourse.

The wool-growing nations are Chili, Uruguay, and the Argentine Republic, and from them our manufacturers of carpets receive a great portion of their supply. It was most strongly urged by the delegates who had carefully studied this subject that the free admission of coarse wools from these countries could not prove injurious to the wool growers of the United States, because the greater profit derived by them from the higher grades discourages, if it does not actually prohibit, their production. On the contrary, they maintained that the free importation of the coarse wool would result in a large reduction in the cost of the cheaper grades of carpets, and enable the manufacturers of the United States to secure an enormous export trade in these fabrics. It was also suggested that the use of the coarse wools for the purpose of adulteration in the manufacture of clothing might be prevented by requiring that imports withdrawn for the manufacture of carpets should be so designated to exempt them from customs dues, and the existing duty retained upon those used for other purposes.

The wool growers of the Argentine Republic protest against what they consider a serious discrimination against their products in the tariff laws of the United States, which impose a duty upon the gross weight instead of the value of the article.

The Argentine wools are much heavier in grease and dirt than those from Australia and New Zealand, which is said to be due to unavoidable climatic conditions, and sell at a lower price. But the imports from the three countries are subject to the same duty. This fact was very strongly urged, to the end that at least equal advantages should be given to the products of a friendly country with which we are endeavoring to build up a trade.

The Argentines desire the free admission of their coarse wool, and other Latin-American states desire the free admission of their sugar to the ports of this country, with the understanding that our peculiar products shall, in turn, be admitted free into their ports. At present, by reason of the high duties levied by them, the chief articles of our production are beyond the purchasing power of the great mass of the people in those countries, and are luxuries which only the wealthy can enjoy.

Excepting raw cotton, our four largest exports during the last fiscal year were breadstuffs, provisions, refined petroleum, and lumber.

The following statement shows the total exports of each of said articles in 1889, and the proportion exported to Latin America:

ARTICLES.	Total exports.	Exported to Latin America.
Breadstuffs.....	\$128,876,423	\$5,128,598
Provisions.....	104,122,828	2,507,375
Refined petroleum.....	44,880,424	2,948,149
Wood and lumber.....	26,907,161	8,669,886

These figures should be closely studied. It would be difficult to understand, but for the explanations given in the conference, why, out of the three hundred millions of staples exported from this country, only fifteen millions should be consumed in all Latin America with its population of 50,000,000 people, when the United States is the only source of supply for those articles which are regarded by us as the necessities of life.

The foreign delegates all agreed that this proportion could be increased many fold by extending to their people the ability to purchase, and the ability to purchase rests, in their opinion, upon reciprocal concessions.

Attached hereto is a statement showing the duties charged by the South American countries of the largest commerce upon the articles which they import chiefly from the United States, and also a statement showing the meager amounts of our peculiar exporta-

ble products shipped to the several Latin-American states. By a comparison of these statements the effect of the removal of the duties upon these articles by the countries of Latin America will at once be apparent.

Fifteen of the seventeen republics with which we have been in conference have indicated, by the votes of their representatives in the International American Conference, and by other methods which it is not necessary to define, their desire to enter upon reciprocal commercial relations with the United States; the remaining two express equal willingness could they be assured that their advances would be favorably considered.

To escape the delay and uncertainty of treaties it has been suggested that a practicable and prompt mode of testing the question was to submit an amendment to the pending tariff bill, authorizing the President to declare the ports of the United States free to all the products of any nation of the American hemisphere upon which no export duties are imposed whenever and so long as such nation shall admit to its ports free of all national, provincial (State), municipal, and other taxes, our flour, corn meal, and other breadstuffs, preserved meats, fish, vegetables, and fruits, cotton-seed oil, rice, and other provisions, including all articles of food, lumber, furniture, and all other articles of wood, agricultural implements and machinery, mining and mechanical machinery, structural steel and iron, steel rails, locomotives, railway cars and supplies, street cars, and refined petroleum. I mention these particular articles because they have been most frequently referred to as those with which a valuable exchange could be readily effected. The list could no doubt be profitably enlarged by a careful investigation of the needs and advantage of both the home and foreign markets.

The opinion was general among the foreign delegates that the legislation herein referred to would lead to the opening of new and profitable markets for the products of which we have so large a surplus, and thus invigorate every branch of agriculture and mechanical industry. Of course the exchanges involved in these propositions would be rendered impossible if Congress, in its wisdom, should repeal the duty on sugar by direct legislation instead of allowing the same object to be attained by the reciprocal arrangement suggested. Respectfully submitted,

JAMES G. BLAINE.

The measure was discussed in the Senate at great length. On Sept. 9, Mr. Aldrich, of Rhode Island, offered an amendment embodying the suggestion of the Secretary of State in regard to reciprocity, and it was adopted by the following vote:

YEAS—Aldrich, Allen, Allison, Cameron, Casey, Chandler, Cullom, Dawes, Dixon, Dolph, Frye, Hale, Hawley, Higgins, Hiseock, Hoar, Ingalls, McMillan, Mitchell, Moody, Paddock, Pierce, Platt, Plumb, Power, Quay, Sanders, Sawyer, Sherman, Spooner, Squire, Stewart, Stockbridge, Teller, Washburn, Wilson of Iowa, Wolcott—37.

NAYS—Barbour, Bate, Berry, Butler, Carlisle, Cockrell, Coke, Colquitt, Daniel, Edmunds, Eustis, Evans, Faulkner, Gibson, Gorman, Gray, Harris, Jones of Arkansas, Kenna, Morgan, Pasco, Pugh, Ransom, Reagan, Vance, Vest, Walthall, Wilson of Maryland—28.

ABSENT—Blackburn, Blair, Blodgett, Brown, Call, Davis, Farwell, George, Hampton, Hearst, Jones of Nevada, McPherson, Manderson, Morrill, Payne, Pettigrew, Stanford, Turpie, Voorhees—19.

Sept. 10, the bill as amended was passed by the following vote:

YEAS—Aldrich, Allen, Allison, Blair, Cameron, Casey, Chandler, Cullom, Davis, Dawes, Dixon, Evans, Frye, Hawley, Higgins, Hiseock, Hoar, Ingalls, Jones of Nevada, McMillan, Manderson, Mitchell, Moody, Paddock, Pierce, Platt, Plumb,

Power, Quay, Sanders, Sawyer, Sherman, Spooner, Squire, Stewart, Stockbridge, Teller, Washburn, Wilson of Iowa, Wolcott—40.

NAYS—Barbour, Bate, Berry, Blackburn, Blodgett, Butler, Carlisle, Cockrell, Coke, Colquitt, Daniel, Faulkner, Gorman, Gray, Harris, Hearst, Jones of Arkansas, Kenna, Morgan, Pasco, Pugh, Ransom, Reagan, Turpie, Vance, Vest, Voorhees, Walthall, Wilson of Maryland—29.

ABSENT—Brown, Call, Dolph, Edmunds, Eustis, Farwell, George, Gibson, Hale, Hampton, McPherson, Morrill, Payne, Pettigrew, Stanford—15.

The House non-concurred in the Senate amendments, conference committees were appointed, and, on Sept. 26, the conferees reported. The provisions as to internal revenue were restored, and the amendment in regard to reciprocity was retained. On the following day the conference report was agreed to, and the measure was approved Oct. 1, and became a law as follows:

An Act to reduce the revenue and equalize duties on imports, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That on and after the sixth day of October, eighteen hundred and ninety, unless otherwise specially provided for in this act, there shall be levied, collected, and paid upon all articles imported from foreign countries, and mentioned in the schedules herein contained, the rates of duty which are, by the schedules and paragraphs, respectively prescribed, namely:

SCHEDULE A.—CHEMICALS, OILS, AND PAINTS.

Acids.—1. Acetic or pyroligneous acid, not exceeding the specific gravity of one and forty-seven one thousandths, one and one half cents per pound; exceeding the specific gravity of one and forty-seven one thousandths, four cents per pound.

2. Boracic acid, five cents per pound.

3. Chromic acid, six cents per pound.

4. Citric acid, ten cents per pound.

5. Sulphuric acid or oil of vitriol, not otherwise specially provided for, one fourth of one cent per pound.

6. Tannic acid or tannin, seventy-five cents per pound.

7. Tartaric acid, ten cents per pound.

8. Alcoholic perfumery, including cologne water and other toilet waters, two dollars per gallon and fifty per centum ad valorem; alcoholic compounds not specially provided for in this act, two dollars per gallon and twenty-five per centum ad valorem.

9. Alumina, alum, alum cake, patent alum, sulphate of alumina, and aluminous cake, and alum in crystals or ground, six tenths of one cent per pound.

Ammonia.—10. Carbonate of, one and three fourths cents per pound; muriate of, or sal-ammoniac, three fourths of one cent per pound; sulphate of, one half of one cent per pound.

11. Blacking of all kinds, twenty-five per centum ad valorem.

12. Blue vitriol, or sulphate of copper, two cents per pound.

13. Bone-char, suitable for use in decolorizing sugar, twenty-five per centum ad valorem.

14. Borax, crude, or borate of soda, or borate of lime, three cents per pound; refined borax, five cents per pound.

15. Camphor, refined, four cents per pound.

16. Chalk, prepared, precipitated, French, and red, one cent per pound; all other chalk preparations not specially provided for in this act, twenty per centum ad valorem.

17. Chloroform, twenty-five cents per pound.

Coal-tar preparations.—18. All coal-tar colors or dyes, by whatever name known, and not specially provided for in this act, thirty-five per centum ad valorem.

19. All preparations of coal-tar, not colors or dyes,

not specially provided for in this act, twenty per centum ad valorem.

20. Cobalt, oxide of, thirty cents per pound.

21. Collodion and all compounds of pyroxyline, by whatever name known, fifty cents per pound; rolled or in sheets, but not made up into articles, sixty cents per pound; if in finished or partly finished articles, sixty cents per pound and twenty-five per centum ad valorem.

22. Coloring for brandy, wine, beer, or other liquors, fifty per centum ad valorem.

23. Copperas or sulphate of iron, three tenths of one cent per pound.

24. Drugs, such as barks, beans, berries, balsams, buds, bulbs, and bulbous roots, and excrescences, such as nut-galls, fruits, flowers, dried fibers, grains, gums, and gum resins, herbs, leaves, lichens, mosses, nuts, roots and stems, spices, vegetables, seeds (aromatic, not garden seeds), and seeds of morbid growth, weeds, woods used expressly for dyeing, and dried insects, any of the foregoing which are not edible, but which have been advanced in value or condition by refining or grinding, or by other process of manufacture, and not specially provided for in this act, ten per cent per pound.

25. Ethers sulphuric, forty cents per pound; spirits of nitrous ether, twenty-five cents per pound; fruit ethers, oils, or essences, two dollars and fifty cents per pound; ethers of all kinds not specially provided for in this act, one dollar per pound.

26. Extracts and decoctions of logwood and other dye woods, extract of sumac, and extracts of barks, such as are commonly used for dyeing or tanning, not specially provided for in this act, seven eighths of one cent per pound; extracts of hemlock bark one half of one cent per pound.

27. Gelatin, glue, and isinglass or fish-glue valued at not above seven cents per pound, one and one half cent per pound; valued at above seven cents per pound, and not above thirty cents per pound, twenty-five per centum ad valorem; valued at above thirty cents per pound, thirty per centum ad valorem.

28. Glycerin, crude, not purified, one and three fourths cent per pound. Refined, four and one half cents per pound.

29. Indigo, extracts, or pastes of, three fourths of one cent per pound; carmined, ten cents per pound.

30. Ink and ink-powders, printers' ink, and all other ink not specially provided for in this act, thirty per centum ad valorem.

31. Iodine, resublimed, thirty cents per pound.

32. Iodoform, one dollar and fifty cents per pound.

33. Licorice, extracts of, in paste, rolls, or other forms, five and one half cents per pound.

34. Magnesia, carbonate of, medicinal, four cents per pound; calcined, eight cents per pound; sulphate of, or Epsom salts, three tenths of one cent per pound.

35. Morphia, or morphine, and all salts thereof, fifty cents per ounce.

Oils.—36. Alizarine assistant, or soluble oil, or oleate of soda, or Turkey red oil, containing fifty per centum or more of castor oil, eighty cents per gallon; containing less than fifty per centum of castor oil, forty cents per gallon; all other, thirty per centum ad valorem.

37. Castor oil, eighty cents per gallon.

38. Cod-liver oil, fifteen cents per gallon.

39. Cotton-seed oil, ten cents per gallon of seven and one half pounds weight.

40. Croton oil, thirty cents per pound.

41. Flaxseed or linseed and poppy-seed oil, raw, boiled, or oxidized, thirty-two cents per gallon of seven and one half pounds weight.

42. Fusel oil, or amylic alcohol, ten per centum ad valorem.

43. Hemp-seed oil and rape-seed oil, ten cents per gallon.

44. Olive oil, fit for salad purposes, thirty-five cents per gallon.

45. Peppermint oil, eighty cents per pound.

46. Seal, herring, whale, and other fish oil not specially provided for in this act, eight cents per gallon.

47. Opium, aqueous extract of, for medicinal uses, and tincture of, as laudanum, and all other liquid preparations of opium, not specially provided for in this act, forty per centum ad valorem.

48. Opium containing less than nine per centum of morphia, and opium prepared for smoking, twelve dollars per pound; but opium prepared for smoking and other preparations of opium deposited in bonded warehouse shall not be removed therefrom without payment of duties, and such duties shall not be refunded.

Paints, Colors, and Varnishes.—49. Baryta, sulphate of, or barytes, including barytes earth, unmanufactured, one dollar and twelve cents per ton; manufactured, six dollars and seventy-two cents per ton.

50. Blues, such as Berlin, Prussian, Chinese, and all others, containing ferrocyanide of iron, dry or ground in or mixed with oil, six cents per pound; in pulp or mixed with water six cents per pound on the material contained therein when dry.

51. Blanc-fixe, or satin white, or artificial sulphate of barytes, three fourths of one cent per pound.

52. Black, made from bone, ivory, or vegetable, under whatever name known, including bone-black and lamp-black, dry or ground in oil or water, twenty-five per centum ad valorem.

53. Chrome yellow, chrome green, and all other chromium colors in which lead and bichromate of potash or soda are component parts, dry, or ground in or mixed with oil, four and one half cents per pound; in pulp or mixed with water, four and one half cents per pound on the material contained therein when dry.

54. Ocher and ochery earths, sienna and sienna earths, umber and umber earths not specially provided for in this act, dry, one fourth of one cent per pound; ground in oil, one and one half cent per pound.

55. Ultramarine blue, four and one half cents per pound.

56. Varnishes, including so-called gold size or japan, thirty-five per centum ad valorem; and on spirit varnishes for the alcohol contained therein, one dollar and thirty-two cents per gallon additional.

57. Vermillion red, and colors containing quicksilver, dry or ground in oil or water, twelve cents per pound.

58. Wash blue, containing ultramarine, three cents per pound.

59. Whiting and Paris white, dry, one half of one cent per pound; ground in oil, or putty, one cent per pound.

60. Zinc, oxide of, and white paint containing zinc, but not containing lead; dry, one and one fourth cent per pound; ground in oil, one and three fourth cent per pound.

61. All other paints and colors, whether dry or mixed, or ground in water or oil, including lakes, crayons, smalts, and frostings, not specially provided for in this act, and artists' colors of all kinds, in tubes or otherwise, twenty-five per centum ad valorem; all paints and colors, mixed or ground with water or solutions other than oil, and commercially known as artists' water-color paints, thirty per centum ad valorem.

Lead Products.—62. Acetate of lead, white, five and one half cents per pound; brown, three and one half cents per pound.

63. Litharge, three cents per pound.

64. Nitrate of lead, three cents per pound.

65. Orange mineral three and one half cents per pound.

66. Red lead, three cents per pound.

67. White lead, and white paint containing lead, dry or in pulp, or ground or mixed with oil, three cents per pound.

68. Phosphorous, twenty cents per pound.

Potash.—69. Bichromate and chromate of, three cents per pound.

70. Caustic or hydrate of, refined in sticks or rolls, one per cent per pound.

71. Hydriodate, iodide, and iodate of, fifty cents per pound.

72. Nitrate of, or saltpetre, refined, one cent per pound.

73. Prussiate of, red, ten cents per pound; yellow, five cents per pound.

Preparations.—74. All medicinal preparations, including medicinal proprietary preparations, of which alcohol is a component part, or in the preparation of which alcohol is used, not specially provided for in this act, fifty cents per pound.

75. All medicinal preparations, including medicinal proprietary preparations, of which alcohol is not a component part, and not specially provided for in this act, twenty-five per centum ad valorem; calomel and other mercurial medicinal preparations, thirty-five per centum ad valorem.

76. Products or preparations known as alkalies, alkaloïds, distilled oils, essential oils, expressed oils, rendered oils, and all combinations of the foregoing, and all chemical compounds and salts, not specially provided for in this act, twenty-five per centum ad valorem.

77. Preparations used as applications to the hair, mouth, teeth, or skin, such as cosmetics, dentifrices, pastes, pomades, powders, and tonics, including all known as toilet preparations, not specially provided for in this act, fifty per centum ad valorem.

78. Santonine, and all salts thereof containing eighty per centum or over of santonine, two dollars and fifty cents per pound.

79. Soap: Castile soap, one and one fourth cent per pound; fancy, perfumed, and all descriptions of toilet soap, fifteen cents per pound; all other soaps, not specially provided for in this act, twenty per centum ad valorem.

Soda.—80. Bicarbonate of soda or supercarbonate of soda or saleratus, one cent per pound.

81. Hydrate of, or caustic soda, one cent per pound.

82. Bichromate and chromate of, three cents per pound.

83. Sal-soda, or soda crystals, and soda ash, one fourth of one cent per pound.

84. Silicate of soda, or other alkaline silicate, one half of one cent per pound.

85. Sulphate of soda, or salt cake or niter cake, one dollar and twenty-five cents per ton.

86. Sponges, twenty per centum ad valorem.

87. Strychnine, or strychnine, and all salts thereof, forty cents per ounce.

88. Sulphur, refined, eight dollars per ton; sublimed, or flowers of, ten dollars per ton.

89. Sumac, ground, four tenths of one cent per pound.

90. Tartar, cream of, and patent tartar, six cents per pound.

91. Tartars and lees crystals, partly refined, four cents per pound.

92. Tartrate of soda and potassa, or Rochelle salts, three cents per pound.

SCHEDULE B.—EARTHEN, EARTHENWARE, AND GLASSWARE.

Brick and Tile.—93. Fire brick, not glazed, enameled, ornamented, or decorated in any manner, one dollar and twenty-five cents per ton; glazed, enameled, ornamented, or decorated, forty-five per centum ad valorem.

94. Tiles and brick, other than fire brick, not glazed, ornamented, painted, enameled, vitrified, or decorated, twenty-five per centum ad valorem; ornamented, glazed, painted, enameled, vitrified, or decorated, and all encaustic, forty-five per centum ad valorem.

Cement, Lime, and Plaster.—95. Roman, Portland, and other hydraulic cement, in barrels, sacks, or other packages, eight cents per one hundred pounds, in-

cluding weight of barrel or package; in bulk, seven cents per one hundred pounds; other cement, twenty per centum ad valorem.

96. Lime, six cents per one hundred pounds, including weight of barrel or package.

97. Plaster of Paris or gypsum, ground, one dollar per ton; calcined, one dollar and seventy-five cents per ton.

Clays or Earths.—98. Clays or earths, unwrought or unmanufactured, not specially provided for in this act, one dollar and fifty cents per ton; wrought or manufactured, not specially provided for in this act, three dollars per ton; china clay or kaolin, three dollars per ton.

Earthenware and China.—99. Common brown earthenware, common stoneware, and crucibles, not ornamented or decorated in any manner, twenty-five per centum ad valorem.

100. China, porcelain, parian, bisque, earthen, stone and crockery ware, including plaques, ornaments, toys, charms, vases, and statuettes, painted, tinted, stained, enameled, printed, gilded, or otherwise decorated or ornamented in any manner, sixty per centum ad valorem; if plain white, and not ornamented or decorated in any manner, fifty-five per centum ad valorem.

101. All other china, porcelain, parian, bisque, earthen, stone, and crockery ware, and manufactures of the same, by whatsoever designation or name known in the trade, including lava tips for burners, not specially provided for in this act, if ornamented or decorated in any manner, sixty per centum ad valorem; if not ornamented or decorated, fifty-five per centum ad valorem.

102. Gas retorts, three dollars each.

Glass and Glassware.—103. Green, and colored, molded or pressed, and flint and lime glass bottles, holding more than one pint, and demijohns, and carboys (covered or uncovered), and other molded or pressed green and colored and flint or lime bottle glassware, not specially provided for in this act, one cent per pound. Green, and colored, molded or pressed, and flint, and lime glass bottles, and vials holding not more than one pint and not less than one quarter of a pint, one and one half cent per pound; if holding less than one fourth of a pint, fifty cents per gross.

104. All articles enumerated in the preceding paragraph, if filled, and not otherwise provided for in this act, and the contents are subject to an ad valorem rate of duty, or to a rate of duty based upon the value, the value of such bottles, vials, or other vessels shall be added to the value of the contents for the ascertainment of the dutiable value of the latter; but if filled, and not otherwise provided for in this act, and the contents are not subject to an ad valorem rate of duty, or to rate of duty based on the value, or are free of duty, such bottles, vials, or other vessels shall pay, in addition to the duty, if any, on their contents, the rates of duty prescribed in the preceding paragraph: *Provided*, That no article manufactured from glass described in the preceding paragraph shall pay a less rate of duty than forty per centum ad valorem.

105. Flint and lime, pressed glassware, not cut, engraved, painted, etched, decorated, colored, printed, stained, silvered, or gilded, sixty per centum ad valorem.

106. All articles of glass, cut, engraved, painted, colored, printed, stained, decorated, silvered, or gilded, not including plate glass silvered, or looking-glass plates, sixty per centum ad valorem.

107. Chemical glassware for use in laboratory, and not otherwise specially provided for in this act, forty-five per centum ad valorem.

108. Thin blown glass, blown with or without a mold, including glass chimneys and all other manufactures of glass, or of which glass shall be the component material of chief value, not specially provided for in this act, sixty per centum ad valorem.

109. Heavy blown glass, blown with or without a

mold, not cut or decorated, finished or unfinished, sixty per centum ad valorem.

110. Porcelain or opal glassware, sixty per centum ad valorem.

111. All cut, engraved, painted, or otherwise ornamented or decorated glass bottles, decanters, or other vessels of glass shall, if filled, pay duty in addition to any duty chargeable on the contents, as if not filled, unless otherwise specially provided for in this act.

112. Unpolished cylinder, crown, and common window glass, not exceeding ten by fifteen inches square, one and three eighths cent per pound; above that, and not exceeding sixteen by twenty-four inches square, one and seven eighths cent per pound; above that, and not exceeding twenty-four by thirty inches square, two and three eighths cents per pound; above that, and not exceeding twenty-four by thirty-six inches square, two and seven eighths cents per pound; all above that, three and one eighth cents per pound: *Provided*, That unpolished cylinder, crown, and common window glass, imported in boxes, shall contain fifty square feet, as nearly as sizes will permit, and the duty shall be computed thereon according to the actual weight of glass.

113. Cylinder and crowned glass, polished, not exceeding sixteen by twenty-four inches square, four cents per square foot; above that, and not exceeding twenty-four by thirty inches square, six cents per square foot; above that, and not exceeding twenty-four by thirty inches square, twenty cents per square foot; above that, forty cents per square foot.

114. Fluted, rolled, or rough plate glass, not including crown, cylinder, or common window glass, not exceeding ten by fifteen inches square, three fourths of one cent per square foot; above that, and not exceeding sixteen by twenty-four inches square, one cent per square foot; above that and not exceeding twenty-four by thirty inches square, one and one half cent per square foot; all above that, two cents per square foot; and all fluted, rolled, or rough plate glass, weighing over one hundred pounds per one hundred square feet, shall pay an additional duty on the excess at the same rates herein imposed: *Provided*, That all of the above plate glass when ground, smoothed, or otherwise obscured shall be subject to the same rate of duty as cast polished plate glass unaltered.

115. Cast polished plate glass, finished or unfinished and unaltered, not exceeding sixteen by twenty-four inches square, five cents per square foot; above that, and not exceeding twenty-four by thirty inches square, eight cents per square foot; above that, and not exceeding twenty-four by sixty inches square, twenty-five cents per square foot; all above that, fifty cents per square foot.

116. Cast polished plate glass, silvered, and looking-glass plates, not exceeding sixteen by twenty-four inches square, six cents per square foot; above that, and not exceeding twenty-four by thirty inches square, ten cents per square foot; above that, and not exceeding twenty-four by sixty inches square, thirty-five cents per square foot; all above that, sixty cents per square foot.

117. But no looking-glass plates, or plate glass silvered, when framed, shall pay a less rate of duty than that imposed upon similar glass of like description not framed, but shall pay in addition thereto upon such frames the rate of duty applicable thereto when imported separate.

118. Cast polished plate glass, silvered or unaltered, and cylinder, crown, or common window glass, when ground, obscured, frosted, sanded, enameled, beveled, etched, embossed, engraved, stained, colored, or otherwise ornamented or decorated, shall be subject to a duty of ten per centum ad valorem in addition to the rates otherwise chargeable thereon.

119. Spectacles and eyeglasses, or spectacles and eyeglass frames, sixty per centum ad valorem.

120. On lenses costing one dollar and fifty cents per gross pairs, or less, sixty per centum ad valorem.

121. Spectacle and eyeglass lenses with their edges

ground or beveled to fit frames, sixty per centum ad valorem.

122. All stained or painted window glass and stained or painted glass windows, and hand, pocket, or table mirrors not exceeding in size one hundred and forty-four square inches, with or without frames or cases, of whatever material composed, lenses of glass or pebble, wholly or partly manufactured, and not specially provided for in this act, and fusible enamel, forty-five per centum ad valorem.

Marble and stone, manufactures of.—123. Marble of all kinds in block, rough or squared, sixty-five cents per cubic foot.

124. Veined marble, sawed, dressed, or otherwise, including marble slabs and marble paving-tiles, one dollar and ten cents per cubic foot (but in measurement no slab shall be computed at less than one inch in thickness).

125. Manufactures of marble not specially provided for in this act, fifty per centum ad valorem.

Stone.—126. Burr stones manufactured or bound up into mill stones, fifteen per centum ad valorem.

127. Freestone, granite, sandstone, limestone, and other building or monumental stone, except marble, unmanufactured or undressed, not specially provided for in this act, eleven cents per cubic foot.

128. Freestone, granite, sandstone, limestone, and other building or monumental stone, except marble, not specially provided for in this act, hewed, dressed, or polished, forty per centum ad valorem.

129. Grindstones, finished or unfinished, one dollar and seventy-five cents per ton.

Slate.—130. Slates, slate chimney pieces, mantels, slabs for tables, and all other manufactures of slate, not specially provided for in this act, thirty per centum ad valorem.

131. Roofing slates, twenty-five per centum ad valorem.

SCHEDULE C.—METALS AND MANUFACTURES OF.

Iron and Steel.

132. Chromate of iron, or chromic ore, fifteen per centum ad valorem.

133. Iron ore, including manganiferous iron ore, also the dross or residuum from burned pyrites, seventy-five cents per ton. Sulphur ore, as pyrites, or sulphuret of iron in its natural state, containing not more than three and one half per centum copper, seventy-five cents per ton: *Provided*, That ore containing more than two per centum of copper shall pay, in addition thereto, one half of one cent per pound for the copper contained therein: *Provided, also*, That sulphur ore, as pyrites, or sulphuret of iron in its natural state, containing in excess of twenty-five per centum of sulphur, shall be free of duty, except on the copper contained therein, as above provided: *And provided further*, That in levying and collecting the duty on iron ore no deduction shall be made from the weight of the ore on account of moisture which may be chemically or physically combined therewith.

134. Iron in pigs, iron kettledge, spiegeleisen, ferromanganese, ferro-silicon, wrought and cast scrap iron, and scrap steel, three tenths of one cent per pound; but nothing shall be deemed scrap iron or scrap steel except waste or refuse iron or steel fit only to be remanufactured.

135. Bar iron, rolled or hammered, comprising flats not less than one inch wide nor less than three eighths of one inch thick, eight tenths of one cent per pound; round iron not less than three fourths of one inch in diameter, and square iron not less than three fourths of one inch square, nine tenths of one cent per pound; flats less than one inch wide or less than three eighths of one inch thick; round iron less than three fourths of one inch and not less than seven sixteenths of one inch in diameter; and square iron less than three fourths of one inch square, one cent per pound.

136. Round iron, in coils or rods, less than seven sixteenths of one inch in diameter, and bars or shapes of rolled iron, not specially provided for in this act,

one and one tenth cent per pound: *Provided*, That all iron in slabs, blooms, loops, or other forms less finished than iron in bars, and more advanced than pig iron, except castings, shall be rated as iron in bars, and be subject to a duty of eight tenths of one cent per pound; and none of the iron above enumerated in this paragraph shall pay a less rate of duty than thirty-five per centum ad valorem; *Provided further*, That all iron bars, blooms, billets, or sizes or shapes of any kind, in the manufacture of which charcoal is used as fuel, shall be subject to a duty of not less than twenty-two dollars per ton.

137. Beams, girders, joists, angles, channels, car-truck channels, T's, columns and posts or parts or sections of columns and posts, deck and bulb beams, and building forms, together with all other structural shapes of iron or steel, whether plain or punched, or fitted for use, nine tenths of one cent per pound.

138. Boiler or other plate iron or steel, except saw plates hereinafter provided for, not thinner than number ten wire gauge, sheared or unsheared, and skelp iron or steel sheared or rolled in grooves, valued at one cent per pound or less, five tenths of one cent per pound; valued above one cent and not above one and four tenths cent per pound, sixty-five hundredths of one cent per pound; valued above one and four tenths cent and not above two cents per pound, eight tenths of one cent per pound; valued above two cents and not above three cents per pound, one and one tenth cent per pound; valued above three cents and not above four cents per pound, one and five tenths cent per pound; valued above four cents and not above seven cents per pound, two cents per pound; valued above seven cents and not above ten cents per pound, two and eight tenths cents per pound; valued above ten cents and not above thirteen cents per pound, three and one half cents per pound; valued above thirteen cents per pound, forty-five per centum ad valorem: *Provided*, That all plate iron or steel thinner than number ten wire gauge shall pay duty as iron or steel sheets.

139. Forgings of iron or steel, or forged iron and steel combined, of whatever shape, or in whatever stage of manufacture, not specially provided for in this act, two and three tenths cents per pound: *Provided*, That no forgings of iron or steel, or forgings of iron and steel combined, by whatever process made, shall pay a less rate of duty than forty-five per centum ad valorem.

140. Hoop, or band, or scroll, or other iron or steel, valued at three cents per pound or less, eight inches or less in width, and less than three eighths of one inch thick and not thinner than number ten wire gauge, one cent per pound; thinner than number ten wire gauge and not thinner than number twenty wire gauge, one and one tenth cent per pound; thinner than number twenty wire gauge, one and three tenths cent per pound: *Provided*, That hoop or band iron, or hoop or band steel, cut to length, or wholly or partially manufactured into hoops or ties for baling purposes, barrel hoops of iron or steel, and hoop or band iron or hoop or band steel flared, splayed, or punched, with or without buckles or fastenings, shall pay two tenths of one cent per pound more duty than that imposed on the hoop or band iron or steel from which they are made.

141. Railway bars, made of iron or steel, and railway bars made in part of steel, T-rails, and punched iron or steel flat rails, six tenths of one cent per pound.

142. Sheets of iron or steel, common or black, including all iron or steel commercially known as common or black taggers iron or steel, and skelp iron or steel, valued at three cents per pound or less: Thinner than number ten and not thinner than number twenty wire gauge, one cent per pound; thinner than number twenty wire gauge and not thinner than number twenty-five wire gauge, one and one tenth cent per pound; thinner than number twenty-five wire gauge, one and four tenths cent per pound; corrugated or crimped, one and four tenths cents per pound: *Provided*, That all common or black sheet

iron or sheet steel not thinner than number ten wire gauge shall pay duty as plate iron or plate steel.

143. All iron or steel sheets or plates, and all hoop, band, or scroll iron or steel, excepting what are known commercially as tin plates,terne plates, and taggers tin, and hereinafter provided for, when galvanized or coated with zinc or spelter, or other metals, or any alloy of those metals, shall pay three fourths of one cent per pound more duty than the rates imposed by the preceding paragraph upon the corresponding gauges, or forms, of common or black sheet or taggers iron or steel; and on and after July first, eighteen hundred and ninety-one, all iron or steel sheets, or plates, or taggers iron coated with tin or lead or with a mixture of which these metals or either of them is a component part, by the dipping or any other process, and commercially known as tin plates,terne plates, and taggers tin, shall pay two and two tenths cents per pound: *Provided*, That on and after July first, eighteen hundred and ninety-one, manufactures of which tin, tin plates,terne plates, taggers tin, or either of them, are component materials of chief value, and all articles, vessels, or wares manufactured, stamped, or drawn from sheet iron or sheet steel, such material being the component of chief value, and coated wholly or in part with tin or lead or a mixture of which these metals or either of them is a component part, shall pay a duty of fifty-five per centum ad valorem: *Provided further*, That on and after October first, eighteen hundred and ninety-seven, tin plates andterne plates lighter in weight than sixty-three pounds per hundred square feet shall be admitted free of duty, unless it shall be made to appear to the satisfaction of the President (who shall thereupon by proclamation make known the fact) that the aggregate quantity of such plates lighter than sixty-three pounds per hundred square feet produced in the United States during either of the six years next preceding June thirtieth, eighteen hundred and ninety-seven, has equaled one third the amount of such plates imported and entered for consumption during any fiscal year after the passage of this act, and prior to said October first, eighteen hundred and ninety-seven: *Provided*, That the amount of such plates manufactured into articles exported, and upon which a drawback shall be paid, shall not be included in ascertaining the amount of such importations: *And provided further*, That the amount or weight of sheet iron or sheet steel manufactured in the United States and applied or wrought in the manufacture of articles or wares tinned orterne plated in the United States, with weight allowance as sold to manufacturers or others, shall be considered as tin andterne plates produced in the United States within the meaning of this act.

144. Sheet iron or sheet steel, polished, planished, or glanced, by whatever name designated, two and one half cents per pound: *Provided*, That plate or sheet or taggers iron or steel, by whatever name designated, other than the polished, planished, or glanced herein provided for, which has been pickled or cleaned by acid, or by any other material or process, or which is cold rolled, smoothed only, not polished, shall pay one quarter of one cent per pound more duty than the corresponding gauges of common or black sheet or taggers iron or steel.

145. Sheets or plates of iron or steel, or taggers iron or steel, coated with tin or lead, or with a mixture of which these metals, or either of them, is a component part, by the dipping or any other process, and commercially known as tin plates,terne plates, and taggers tin, one cent per pound until July first, eighteen hundred and ninety-one.

146. Steel ingots, cogged ingots, blooms, and slabs, by whatever process made; die blocks or blanks; billets and bars and tapered or beveled bars; steamer, crank, and other shafts; shafting; wrist or crank pins; connecting rods and piston rods; pressed, sheared, or stamped shapes; saw plates, wholly or partially manufactured; hammer molds or swaged steel; gun-barrel molds not in bars; alloys used as substitutes

for steel tools; all descriptions and shapes of dry sand, loam, or iron-molded steel castings; sheets and plates not specially provided for in this act; and steel in all forms and shapes not specially provided for in this act; all of the above valued at one cent per pound or less, four tenths of one cent per pound; valued above one cent and not above one and four tenths cent per pound, five tenths of one cent per pound; valued above one and four tenths cent and not above one and eight tenths cent per pound, eight tenths of one cent per pound; valued above one and eight tenths cent and not above two and two tenths cent per pound, nine-tenths of one cent per pound; valued above two and two tenths cents, and not above three cents per pound, one and two tenths cent per pound; valued above three cents and not above four cents per pound, one and six tenths cent per pound; valued above four cents and not above seven cents per pound, two cents per pound; valued above seven cents and not above ten cents per pound, two and eight tenths cents per pound; valued above ten cents and not above thirteen cents per pound, three and one half cents per pound; valued above thirteen cents and not above sixteen cents per pound four and two tenths cents per pound, valued above sixteen cents per pound, seven cents per pound.

Wire.—147. Wire rods: Rivet, screw, fence, and other iron or steel wire rods, and nail rods, whether round, oval, flat, square, or in any other shape, in coils or otherwise, not smaller than number six wire gauge, valued at three and one half cents or less per pound, six tenths of one cent per pound; and iron or steel, flat, with longitudinal ribs for the manufacture of fencing, valued at three cents or less per pound, six tenths of one cent per pound: *Provided*, That all iron or steel rods, whether rolled or drawn through dies, smaller than number six wire gauge, shall be classed and dutiable as wire.

148. Wire: Wire made of iron or steel, not smaller than number ten wire gauge, one and one fourth cent per pound; smaller than number ten, and not smaller than number sixteen wire gauge, one and three fourths cent per pound; smaller than number sixteen and not smaller than number twenty-six wire gauge, two and one-fourth cents per pound; smaller than number twenty-six wire gauge, three cents per pound: *Provided*, That iron or steel wire covered with cotton, silk, or other material, and wires or strip steel, commonly known as erinoline wire, corset wire, and hat wire, shall pay a duty of five cents per pound; *And provided further*, That flat steel wire, or sheet steel in strips, whether drawn through dies or rolls, untempered or tempered, of whatever width, twenty-five one thousandths of an inch thick or thinner (ready for use or otherwise), shall pay a duty of fifty per centum ad valorem: *And provided further*, That no article made from iron or steel wire, or of which iron or steel wire is a component part of chief value, shall pay a less rate of duty than the iron or steel wire from which it is made either wholly or in part: *And provided further*, That iron or steel wire cloths, and iron or steel wire nettings made in meshes of any form, shall pay a duty equal in amount to that imposed on iron or steel wire used in the manufacture of iron or steel wire cloth, or iron or steel wire nettings, and two cents per pound in addition thereto.

There shall be paid on iron or steel wire coated with zinc or tin, or any other metal (except tence wire and iron or steel, flat, with longitudinal ribs, for the manufacture of fencing), one half of one cent per pound in addition to the rate imposed on the wire of which it is made; on iron wire rope and wire strand, one cent per pound in addition to the rate imposed on the wire of which it is made; on steel wire rope and wire strand, two cents per pound in addition to the rate imposed on the wire of which they or either of them are made: *Provided further*, That all iron or steel wire valued at more than four cents per pound shall pay a duty of not less than forty-five per centum ad valorem, except that card wire for the manufacture

of card clothing shall pay a duty of thirty-five per centum ad valorem.

General Provisions.

149. No allowance or reduction of duties for partial loss or damage in consequence of rust or of discoloration shall be made upon any description of iron or steel, or upon any article wholly or partly manufactured of iron or steel, or upon any manufacture of iron and steel.

150. All metal produced from iron or its ores, which is cast and malleable, of whatever description or form, without regard to the percentage of carbon contained therein, whether produced by cementation, or converted, cast, or made from iron or its ores, by the crucible, Bessemer, Clapp-Griffiths, pneumatic, Thomas-Gilchrist, basic, Siemens-Martin, or open-hearth process, or by the equivalent of either, or by a combination of two or more of the processes, or their equivalents, or by any fusion or other process which produces from iron or its ore a metal either granular or fibrous in structure, which is cast and malleable, excepting what is known as malleable-iron castings shall be classed and denominated as steel.

151. No article not specially provided for in this act, wholly or partly manufactured from tin plate,terne plate, or the sheet, plate, hoop, band, or scroll iron or steel herein provided for, or of which such tin plate,terne plate, sheet, plate, hoop, band, or scroll iron or steel shall be the material of chief value, shall pay a lower rate of duty than that imposed on the tin plate,terne plate, or sheet, plate, hoop, band, or scroll iron or steel from which it is made, or of which it shall be the component thereof of chief value.

152. On all iron or steel bars or rods of whatever shape or section, which are cold rolled, cold hammered, or polished in any way, in addition to the ordinary process of hot rolling or hammering, there shall be paid one fourth of one cent per pound in addition to the rates provided in this act; and on all strips, plates, or sheets of iron or steel of whatever shape, other than the polished, planished, or glanced sheet iron, or sheet steel hereinbefore provided for, which are cold rolled, cold hammered, blueed, brightened, tempered, or polished by any process to such perfected surface finish or polish better than the grade of cold rolled, smooth only, hereinbefore provided for, there shall be paid one and one fourth cent per pound in addition to the rates provided in this act upon plates, strips, or sheets of iron or steel of common or black finish; and on steel circular-saw plates there shall be paid one cent per pound in addition to the rate provided in this act for steel saw plates.

Manufactures of Iron and Steel.

153. Anchors, or parts thereof, of iron or steel, mill irons and mill cranks of wrought iron, and wrought iron for ships, and forgings of iron or steel, or of combined iron and steel, for vessels, steam engines, and locomotives, or parts thereof, weighing each twenty-five pounds or more, one and eight tenths cent per pound.

154. Axles, or parts thereof, axle bars, axle blanks, or forgings for axles, whether of iron or steel, without reference to the stage or state of manufacture, two cents per pound: *Provided*, That when iron or steel axles are imported fitted in wheels, or parts of wheels, of iron or steel, they shall be dutiable at the same rate as the wheels in which they are fitted.

155. Anvils of iron or steel, or of iron and steel combined, by whatever process made, or in whatever stage of manufacture, two and one half cents per pound.

156. Blacksmiths' hammers and sledges, track tools, wedges, and crowbars, whether of iron or steel, two and one fourth cents per pound.

157. Boiler or other tubes, pipes, flues, or stays of wrought iron or steel, two and one half cents per pound.

158. Bolts, with or without threads or nuts, or bolt

blanks, and finished hinges or hinge blanks, whether of iron or steel, two and one fourth cents per pound.

159. Card clothing, manufactured from tempered-steel wire, fifty cents per square foot; all other, twenty-five cents per square foot.

160. Cast-iron pipe of every description, nine tenths of one cent per pound.

161. Cast-iron vessels, plates, stove plates, and-irons, 'sadd-irons, tailors' irons, hatters' irons, and castings of iron, not specially provided for in this act, one and two tenths cent per pound.

162. Castings of malleable iron not specially provided for in this act, one and three fourths cent per pound.

163. Cast hollow ware, coated, glazed, or tinned, three cents per pound.

164. Chain or chains of all kinds, made of iron or steel, not less than three fourths of one inch in diameter, one and six tenths cent per pound; less than three fourths of one inch and not less than three eighths of one inch in diameter, one and eight tenths cent per pound; less than three eighths of one inch in diameter, two and one half cents per pound, but no chain or chains of any description shall pay a lower rate of duty than forty-five per centum ad valorem.

Cutlery.—165. Pen-knives or pocket knives of all kinds, or parts thereof, and erasers or parts thereof, wholly or partly manufactured, valued at not more than fifty cents per dozen, twelve cents per dozen; valued at more than fifty cents per dozen and not exceeding one dollar and fifty cents per dozen, fifty cents per dozen; valued at more than one dollar and fifty cents per dozen and not exceeding three dollars per dozen, one dollar per dozen; valued at more than three dollars per dozen, two dollars per dozen; and in addition thereto on all the above, fifty per centum ad valorem. Razors and razor blades, finished or unfinished, valued at less than four dollars per dozen, one dollar per dozen; valued at four dollars or more per dozen, one dollar and seventy-five cents per dozen; and in addition thereto on all the above razors and razor blades, thirty per centum ad valorem.

166. Swords, sword blades and side arms, thirty-five per centum ad valorem.

167. Table knives, forks, steels, and all butchers', hunting, kitchen, bread, butter, vegetable, fruit, cheese, plumbers', painters', palette, and artists' knives, of all sizes, finished or unfinished, valued at not more than one dollar per dozen pieces, ten cents per dozen; valued at more than one dollar and not more than two dollars, thirty-five cents per dozen; valued at more than two dollars and not more than three dollars, forty cents per dozen; valued at more than three dollars and not more than eight dollars, one dollar per dozen; valued at more than eight dollars, two dollars per dozen; and in addition upon all the above-named articles, thirty per centum ad valorem. All carving and cooks' knives and forks of all sizes, finished or unfinished, valued at not more than four dollars per dozen pieces, one dollar per dozen; valued at more than four dollars and not more than eight dollars, two dollars per dozen pieces; valued at more than eight dollars and not more than twelve dollars, three dollars per dozen pieces; valued at more than twelve dollars, five dollars per dozen pieces; and in addition upon all the above-named articles, thirty per centum ad valorem.

168. Files, file blanks, rasps, and floats, of all cuts and kinds, four inches in length and under, thirty-five cents per dozen; over four inches in length and under nine inches, seventy-five cents per dozen; nine inches in length and under fourteen inches, one dollar and thirty cents per dozen; fourteen inches in length and over, two dollars per dozen.

Fire-Arms.—169. Muskets and sporting rifles, twenty-five per centum ad valorem.

170. All double-barreled, sporting, breech-loading shot guns valued at not more than six dollars each, one dollar and fifty cents each; valued at more than six dollars and not more than twelve dollars each, four dollars each; valued at more than twelve dollars each, six dollars each; and in addition thereto on all

the above, thirty-five per centum ad valorem. Single-barrel breech-loading shot guns, one dollar each and thirty-five per centum ad valorem. Revolving pistols valued at not more than one dollar and fifty cents each, forty cents each; valued at more than one dollar and fifty cents, one dollar each; and in addition thereto on all the above pistols, thirty-five per centum ad valorem.

171. Iron or steel sheets, plates, wares, or articles, enameled or glazed with vitreous glasses, forty-five per centum ad valorem.

172. Iron or steel sheets, plates, wares, or articles, enameled or glazed as above with more than one color, or ornamented; fifty per centum ad valorem.

Nails, spikes, tacks, and needles.—173. Cut nails and cut spikes of iron or steel, one cent per pound.

174. Horseshoe nails, hob nails, and all other wrought iron or steel nails not specially provided for in this act, four cents per pound.

175. Wire nails made of wrought iron or steel, two inches long and longer, not lighter than number twelve wire gauge, two cents per pound; from one inch to two inches in length, and lighter than number twelve and not lighter than number sixteen wire gauge, two and one half cents per pound; shorter than one inch and lighter than number sixteen wire gauge, four cents per pound.

176. Spikes, nuts, and washers, and horse, mule, or ox shoes, of wrought iron or steel, one and eight tenths cent per pound.

177. Cut tacks, brads, or sprigs, not exceeding sixteen ounces to the thousand, two and one fourth cents per thousand; exceeding sixteen ounces to the thousand, two and three fourths cents per thousand.

178. Needles for knitting or sewing machines, crochet needles and tape needles, and bodkins of metal, thirty-five per centum ad valorem.

179. Needles, knitting, and all others not specially provided for in this act, twenty-five per centum ad valorem.

Plates.—180. Steel plates engraved, stereotype plates, electrotpe plates, and plates of other materials, engraved or lithographed, for printing, twenty-five per centum ad valorem.

181. Railway fish plates or splice bars, made of iron or steel, one cent per pound.

182. Rivets of iron or steel, two and one half cents per pound.

183. Saws:—Cross-cut saws, eight cents per linear foot; mill, pit, and drag saws, not over nine inches wide, ten cents per linear foot; over nine inches wide, fifteen cents per linear foot; circular saws, thirty per centum ad valorem; hand, back, and all other saws not specially provided for in this act, forty per centum ad valorem.

184. Screws, commonly called wood screws, more than two inches in length, five cents per pound; over one inch and not more than two inches in length, seven cents per pound; over one half inch and not more than one inch in length, ten cents per pound; one half inch and less in length, fourteen cents per pound.

185. Wheels, or parts thereof, made of iron or steel, and steel-tired wheels for railway purposes, whether wholly or partly finished, and iron or steel locomotive, car, or other railway tires or parts thereof, wholly or partly manufactured, two and one half cents per pound; and ingots, cogged ingots, blooms, or blanks for the same, without regard to the degree of manufacture, one and three fourths cents per pound: *Provided*, That when wheels or parts thereof, of iron or steel are imported with iron or steel axles fitted in them, the wheels and axles together shall be dutiable at the same rate as is provided for the wheels when imported separately.

Miscellaneous Metals and Manufactures of.

186. Aluminium or aluminum, in crude form, alloys of any kind in which aluminium is the component material of chief value, fifteen cents per pound.

187. Antimony, as regulus or metal, three fourths of one cent per pound.

188. Argentine, albata, or German silver, unmanufactured, twenty-five per centum ad valorem.

189. Brass, in bars or pigs, old brass, clippings from brass or Dutch metal, and old sheathing, or yellow metal, fit only for remanufacture, one and one half cent per pound.

190. Bronze powder, twelve cents per pound; bronze or Dutch metal, or aluminum, in leaf, eight cents per package of one hundred leaves.

Copper.—191. Copper imported in the form of ores, one half of one cent per pound on each pound of fine copper contained therein.

192. Old copper, fit only for remanufacture, clippings from new copper, and all composition metal of which copper is a component material of chief value, not specially provided for in this act, one cent per pound.

193. Regulus of copper and black or coarse copper, and copper cement, one cent per pound on each pound of fine copper contained therein.

194. Copper in plates, bars, ingots, Chili or other pigs, and in other forms, not manufactured, not specially provided for in this act, one and one fourth cent per pound.

195. Copper in rolled plates, called braziers' copper, sheets, rods, pipes, and copper bottoms, also sheathing or yellow metal of which copper is the component material of chief value, and not composed wholly or in part of iron ungalvanized, thirty-five per centum ad valorem.

Gold and Silver.—196. Bullions and metal thread of gold, silver, or other metals, not specially provided for in this act, thirty per centum ad valorem.

197. Gold leaf, two dollars per package of five hundred leaves.

198. Silver leaf, seventy-five cents per package of five hundred leaves.

Lead.—199. Lead ore and lead dross, one and one half cent per pound; *Provided*, That silver ore and all other ores containing lead shall pay a duty of one and one half cent per pound on the lead contained therein, according to sample and assay at the port of entry.

200. Lead in pigs and bars, molten and old refuse lead run into blocks and bars, and old scrap lead fit only to be remanufactured, two cents per pound.

201. Lead in sheets, pipes, shot, glaziers' lead, and lead wire, two and one half cents per pound.

202. Metallic mineral substances in a crude state and metals unwrought, not specially provided for in this act, twenty per centum ad valorem; mica, thirty-five per centum ad valorem.

Nickel.—203. Nickel, nickel oxide, alloy of any kind in which nickel is the component material of chief value, ten cents per pound.

204. Pens, metallic, except gold pens, twelve cents per gross.

205. Pen-holder tips, pen-holders or parts thereof, and gold pens, thirty per centum ad valorem.

206. Pins, metallic, solid head or other, including hair pins, safety pins, and hat, bonnet, shawl, and belt pins, thirty per centum ad valorem.

207. Quicksilver, ten cents per pound. The flasks, bottles, or other vessels in which quicksilver is imported shall be subject to the same rate of duty as they would be subjected to if imported empty.

208. Type metal, one and one half cent per pound for the lead contained therein; new types, twenty-five per centum ad valorem.

209. Tin: On and after July first, eighteen hundred and ninety-three, there shall be imposed and paid upon cassiterite or black oxide of tin, and upon bar, block, and pig tin, a duty of four cents per pound; *Provided*, That unless it shall be made to appear to the satisfaction of the President of the United States (who shall make known the fact by proclamation) that the product of the mines of the United States shall have exceeded five thousand tons of cassiterite, and bar, block, and pig tin in any one

year prior to July first, eighteen hundred and ninety-five, then all imported cassiterite, bar, block, and pig tin shall after July first, eighteen hundred and ninety-five, be admitted free of duty.

Watches.—210. Chronometers, box or ship's, and parts thereof, ten per centum ad valorem.

211. Watches, parts of watches, watch cases, watch movements, and watch glasses, whether separately packed or otherwise, twenty-five per centum ad valorem.

Zinc or Spelter.—212. Zinc in blocks or pigs, one and three fourths cent per pound.

213. Zinc in sheets, two and one half cents per pound.

214. Zinc, old and worn out, fit only to be remanufactured, one and one fourth cents per pound.

215. Manufactures, articles, or wares, not specially enumerated or provided for in this act, composed wholly or in part of iron, steel, lead, copper, nickel, pewter, zinc, gold, silver, platinum, aluminum, or any other metal, and whether partly or wholly manufactured, forty-five per centum ad valorem.

SCHEDULE D.—WOOD AND MANUFACTURES OF.

216. Timber, hewed and sawed, and timber used for spars and in building wharves, ten per centum ad valorem.

217. Timber, squared or sided, not specially provided for in this act, one half of one cent per cubic foot.

218. Sawed boards, plank, deals, and other lumber of hemlock, whitewood, sycamore, white pine, and basswood, one dollar per thousand feet board measure; sawed lumber, not specially provided for in this act, two dollars per thousand feet board measure; but when lumber of any sort is planed or finished, in addition to the rates herein provided, there shall be levied and paid for each side so planed or finished fifty cents per thousand feet board measure; and if planed on one side and tongued and grooved, one dollar per thousand feet board measure; and if planed on two sides, and tongued and grooved, one dollar and fifty cents per thousand feet board measure; and in estimating board measure under this schedule no deduction shall be made on board measure on account of planing, tonguing, and grooving: *Provided*, That in case any foreign country shall impose an export duty upon pine, spruce, elm, or other logs, or upon stave bolts, shingle wood, or heading blocks exported to the United States from such country, then the duty upon the sawed lumber herein provided for, when imported from such country, shall remain the same as fixed by the law in force prior to the passage of this act.

219. Cedar: That on and after March first, eighteen hundred and ninety-one, paving posts, railroad ties, and telephone and telegraph poles of cedar, shall be dutiable at twenty per centum ad valorem.

220. Sawed boards, plank, deals, and all forms of sawed cedar, lignum vite, lancewood, ebony, box, granadilla, mahogany, rosewood, satinwood, and all other cabinet woods not further manufactured than sawed, fifteen per centum ad valorem; veneers of wood, and wood, unmanufactured, not specially provided for in this act, twenty per centum ad valorem.

221. Pine clapboards, one dollar per one thousand.

222. Spruce clapboards, one dollar and fifty cents per one thousand.

223. Hubs for wheels, posts, last blocks, wagon blocks, car blocks, gun blocks, heading blocks, and all like blocks or sticks, rough hewed or sawed only, twenty per centum ad valorem.

224. Laths, fifteen cents per one thousand pieces.

225. Pickets and palings, ten per centum ad valorem.

226. White-pine shingles, twenty cents per one thousand; all other, thirty cents per one thousand.

227. Staves of wood of all kinds, ten per centum ad valorem.

228. Casks and barrels (empty), sugar-box shooks, and packing boxes and packing-box shooks, of wood,

not specially provided for in this act, thirty per centum ad valorem.

229. Chair cane, or reeds wrought or manufactured from rattans or reeds, and whether round, square, or in any other shape, ten per centum ad valorem.

230. House or cabinet furniture, of wood, wholly, or partly finished, manufactures of wood, or of which wood is the component material of chief value, not specially provided for in this act, thirty-five per centum ad valorem.

SCHEDULE E.—SUGAR.

231. That on and after July first, eighteen hundred and ninety-one, and until July first, nineteen hundred and five, there shall be paid, from any moneys in the Treasury not otherwise appropriated, under the provisions of section three thousand six hundred and eighty-nine of the Revised Statutes, to the producer of sugar testing not less than ninety degrees by the polariscope, from beets, sorghum, or sugar-cane grown within the United States, or from maple sap produced within the United States, a bounty of two cents per pound; and upon such sugar testing less than ninety degrees by the polariscope, and not less than eighty degrees, a bounty of one and three fourths cent per pound, under such rules and regulations as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe.

232. The producer of said sugar to be entitled to said bounty shall have first filed prior to July first of each year with the Commissioner of Internal Revenue a notice of the place of production, with a general description of the machinery and methods to be employed by him, with an estimate of the amount of sugar proposed to be produced in the current or next ensuing year, including the number of maple trees to be tapped, and an application for a license to so produce, to be accompanied by a bond in a penalty, and with sureties to be approved by the Commissioner of Internal Revenue, conditioned that he will faithfully observe all rules and regulations that shall be prescribed for such manufacture and production of sugar.

233. The Commissioner of Internal Revenue, upon receiving the application and bond hereinbefore provided for, shall issue to the applicant a license to produce sugar from sorghum, beets, or sugar-cane grown within the United States, or from maple sap produced within the United States at the place and with the machinery and by the methods described in the application; but said license shall not extend beyond one year from the date thereof.

234. No bounty shall be paid to any person engaged in refining sugars which have been imported into the United States, or produced in the United States upon which the bounty herein provided for has already been paid or applied for, nor to any person unless he shall have first been licensed as herein provided, and only upon sugar produced by such person from sorghum, beets, or sugar-cane grown within the United States, or from maple sap produced within the United States. The Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall from time to time make all needful rules and regulations for the manufacture of sugar from sorghum, beets, or sugar-cane grown within the United States, or from maple sap produced within the United States, and shall, under the direction of the Secretary of the Treasury, exercise supervision and inspection of the manufacture thereof.

235. And for the payment of these bounties the Secretary of the Treasury is authorized to draw warrants on the Treasurer of the United States for such sums as shall be necessary, which sums shall be certified to him by the Commissioner of Internal Revenue, by whom the bounties shall be disbursed, and no bounty shall be allowed or paid to any person licensed as aforesaid in any one year upon any quantity of sugar less than five hundred pounds.

236. That any person who shall knowingly refine or aid in the refining of sugar imported into the United States or upon which the bounty herein provided for

has already been paid or applied for, at the place described in the license issued by the Commissioner of Internal Revenue, and any person not entitled to the bounty herein provided for, who shall apply for or receive the same, shall be guilty of a misdemeanor, and, upon conviction thereof, shall pay a fine not exceeding five thousand dollars, or be imprisoned for a period not exceeding five years, or both, in the discretion of the court.

237. All sugars above number sixteen Dutch standard in color shall pay a duty of five tenths of one cent per pound: *Provided*, That all such sugars above number sixteen Dutch standard in color shall pay one tenth of one cent per pound in addition to the rate herein provided for, when exported from, or the product of any country when and so long as such country pays or shall hereafter pay, directly or indirectly, a bounty on the exportation of any sugar that may be included in this grade which is greater than is paid on raw sugars of a lower saccharine strength; and the Secretary of the Treasury shall prescribe suitable rules and regulations to carry this provision into effect: *And provided further*, That all machinery purchased abroad and erected in a beet-sugar factory and used in the production of raw sugar in the United States from beets produced therein shall be admitted duty free until the first day of July, eighteen hundred and ninety-two: *Provided*, That any duty collected on any of the above-described machinery purchased abroad and imported into the United States for the uses above indicated since January first, eighteen hundred and ninety, shall be refunded.

238. Sugar candy and all confectionery, including chocolate confectionery, made wholly or in part of sugar, valued at twelve cents or less per pound, and on sugars after being refined, when tintured, colored, or in any way adulterated, five cents per pound.

239. All other confectionery, including chocolate confectionery, not specially provided for in this act, fifty per centum ad valorem.

240. Glucose, or grape sugar, three fourths of one cent per pound.

241. That the provisions of this act providing terms for the admission of imported sugars and molasses and for the payment of a bounty on sugars of domestic production shall take effect on the first day of April, eighteen hundred and ninety-one: *Provided*, That on and after the first day of March, eighteen hundred and ninety-one, and prior to the first day of April, eighteen hundred and ninety-one, sugars not exceeding number sixteen Dutch standard in color may be refined in bond without payment of duty, and such refined sugars may be transported in bond and stored in bonded warehouse at such points of destination as are provided in existing laws relating to the immediate transportation of dutiable goods in bond, under such rules and regulations as shall be prescribed by the Secretary of the Treasury.

SCHEDULE F.—TOBACCO AND MANUFACTURES OF.

242. Leaf tobacco suitable for cigar wrappers, if not stemmed, two dollars per pound; if stemmed, two dollars and seventy-five cents per pound: *Provided*, That if any portion of any tobacco imported in any bale, box, or package, or in bulk shall be suitable for cigar wrappers, the entire quantity of tobacco contained in such bale, box, or package, or bulk shall be dutiable; if not stemmed, at two dollars per pound; if stemmed, at two dollars and seventy-five cents per pound.

243. All other tobacco in leaf, unmanufactured and not stemmed, thirty-five cents per pound; if stemmed, fifty cents per pound.

244. Tobacco manufactured, of all descriptions, not specially enumerated or provided for in this act, forty cents per pound.

245. Snuff and snuff flour, manufactured of tobacco, ground dry, or damp, and pickled, scented, or otherwise, of all descriptions, fifty cents per pound.

246. Cigars, cigarettes, and cheroots of all kinds, four dollars and fifty cents per pound and twenty-

five per centum ad valorem; and paper cigars and cigarettes, including wrappers, shall be subject to the same duties as are herein imposed upon cigars.

SCHEDULE G.—AGRICULTURAL PRODUCTS AND PROVISIONS.

Animals, Live.—247. Horses and mules, thirty dollars per head: *Provided*, That horses valued at one hundred and fifty dollars and over shall pay a duty of thirty per centum ad valorem.

248. Cattle more than one year old, ten dollars per head; one year old or less, two dollars per head.

249. Hogs, one dollar and fifty cents per head.

250. Sheep, one year old or more, one dollar and fifty cents per head; less than one year old, seventy-five cents per head.

251. All other live animals, not specially provided for in this act, twenty per centum ad valorem.

Breadstuffs and Farnaceous Substances.—252. Barley, thirty cents per bushel of forty-eight pounds.

253. Barley malt, forty-five cents per bushel of thirty-four pounds.

254. Barley, pearled, patent, or hulled, two cents per pound.

255. Buckwheat, fifteen cents per bushel of forty-eight pounds.

256. Corn or maize, fifteen cents per bushel of fifty-five pounds.

257. Corn meal, twenty cents per bushel of forty-eight pounds.

258. Macaroni, vermicelli, and all similar preparations, two cents per pound.

259. Oats, fifteen cents per bushel.

260. Oatmeal, one cent per pound.

261. Rice, cleaned, two cents per pound; uncleaned rice, one and one quarter cent per pound; paddy, three quarters of one cent per pound; rice flour, rice meal, and rice, broken, which will pass through a sieve known commercially as number twelve wire sieve, one fourth of one cent per pound.

262. Rye, ten cents per bushel.

263. Rye flour, one-half of one cent per pound.

264. Wheat, twenty-five cents per bushel.

265. Wheat flour, twenty-five per centum ad valorem.

Dairy Products.—266. Butter, and substitutes therefor, six cents per pound.

267. Cheese, six cents per pound.

268. Milk, fresh, five cents per gallon.

269. Milk, preserved or condensed, including weight of packages, three cents per pound; sugar of milk, eight cents per pound.

Farm and Field Products.—270. Beans, forty cents per bushel of sixty pounds.

271. Beans, pease, and mushrooms, prepared or preserved, in tins, jars, bottles, or otherwise, forty per centum ad valorem.

272. Broom corn, eight dollars per ton.

273. Cabbages, three cents each.

274. Cider, five cents per gallon.

275. Eggs, five cents per dozen.

276. Eggs, yolk of, twenty-five per centum ad valorem.

277. Hay, four dollars per ton.

278. Honey, twenty cents per gallon.

279. Hops, fifteen cents per pound.

280. Onions, forty cents per bushel.

281. Pease, green, in bulk or in barrels, sacks, or similar packages, forty cents per bushel of sixty pounds; pease, dried, twenty cents per bushel; split pease, fifty cents per bushel of sixty pounds; pease in cartons, papers, or other small packages, one cent per pound.

282. Plants, trees, shrubs, and vines of all kinds, commonly known as nursery stock, not specially provided for in this act, twenty per centum ad valorem.

283. Potatoes, twenty-five cents per bushel of sixty pounds.

284. Castor beans or seeds, fifty cents per bushel of fifty pounds.

285. Flaxseed or linseed, poppy seed and other oil seeds, not specially provided for in this act, thirty cents per bushel of fifty-six pounds; but no drawback shall be allowed on oil cake made from imported seed.

286. Garden seeds, agricultural seeds, and other seeds, not specially provided for in this act, twenty per centum ad valorem.

287. Vegetables of all kinds, prepared or preserved, including pickles and sauces of all kinds, not specially provided for in this act, forty-five per centum ad valorem.

288. Vegetables in their natural state, not specially provided for in this act, twenty-five per centum ad valorem.

289. Straw, thirty per centum ad valorem.

290. Teapies, thirty per centum ad valorem.

291. Anchovies and sardines, packed in oil or otherwise, in tin boxes, measuring not more than five inches long, four inches wide and three and one half inches deep, ten cents per whole box; in half-boxes, measuring not more than five inches long, four inches wide, and one and five eighths inch deep, five cents each; in quarter-boxes, measuring not more than four and three fourths inches long, three and one half inches wide, and one and one fourth inch deep, two and one half cents each; when imported in any other form, forty per centum ad valorem.

292. Fish, pickled, in barrels or half-barrels, and mackerel or salmon, pickled or salted, one cent per pound.

293. Fish, smoked, dried, salted, pickled, frozen, packed in ice, or otherwise prepared for preservation, and fresh fish, not specially provided for in this act, three fourths of one cent per pound.

294. Herrings, pickled or salted, one half of one cent per pound; herrings, fresh, one fourth of one cent per pound.

295. Fish in cans or packages made of tin or other material; except anchovies and sardines and fish packed in any other manner, not specially enumerated or provided for in this act, thirty per centum ad valorem.

296. Cans or packages, made of tin or other metal, containing shell fish admitted free of duty, not exceeding one quart in contents, shall be subject to a duty of eight cents per dozen cans or packages; and when exceeding one quart, shall be subject to an additional duty of four cents per dozen for each additional half-quart or fractional part thereof: *Provided*, That until June thirtieth, eighteen hundred and ninety one, such cans or packages shall be admitted as now provided by law.

Fruits and Nuts.—297. Fruits: Apples, green or ripe, twenty-five cents per bushel.

298. Apples, dried, desiccated, evaporated, or prepared in any manner, and not otherwise provided for in this act, two cents per pound.

299. Grapes, sixty cents per barrel of three cubic feet capacity or fractional part thereof; plums and prunes, two cents per pound.

300. Figs, two and one half cents per pound.

301. Oranges, lemons, and limes, in packages of capacity of one and one fourth cubic foot or less, thirteen cents per package; in packages of capacity exceeding one and one fourth cubic foot and not exceeding two and one half cubic feet, twenty-five cents per package; in packages of capacity exceeding two and one half cubic feet and not exceeding five cubic feet, fifty cents per package; in packages of capacity exceeding five cubic feet, for every additional cubic foot or fractional part thereof, ten cents; in bulk, one dollar and fifty cents per one thousand; and in addition thereto a duty of thirty per centum ad valorem upon the boxes or barrels containing such oranges, lemons, or limes.

302. Raisins, two and one half cents per pound.

303. Comfits, sweetmeats, and fruits preserved in sugar, sirup, molasses, or spirits, not specially provided for in this act, and jellies of all kinds, thirty-five per centum ad valorem.

304. Fruits preserved in their own juices, thirty per centum ad valorem.

305. Orange peel and lemon peel, preserved or candied, two cents per pound.

306. Nuts: Almonds, not shelled, five cents per pound; clear almonds, shelled, seven and one half cents per pound.

307. Filberts and walnuts of all kinds, not shelled, three cents per pound; shelled, six cents per pound.

308. Peanuts or ground beans, unshelled, one cent per pound; shelled, one and one half cent per pound.

309. Nuts of all kinds, shelled or unshelled, not specially provided for in this act, one and one half cents per pound.

Meat Products.—310. Bacon and hams, five cents per pound.

311. Beef, mutton, and pork, two cents per pound.

312. Meats of all kinds, prepared or preserved, not specially provided for in this act, twenty-five per centum ad valorem.

313. Extract of meat, all not specially provided for in this act, thirty-five cents per pound; fluid extract of meat, fifteen cents per pound; and no separate or additional duty shall be collected on such coverings unless as such they are suitable and apparently designed for use other than in the importation of meat extracts.

314. Lard, two cents per pound.

315. Poultry, live, three cents per pound; dressed, five cents per pound.

316. Tallow, one cent per pound; wool grease, including that known commercially as degmas or brown wool grease, one half of one cent per pound.

Miscellaneous Products.—317. Chicory root, burned or roasted, ground or granulated, or in rolls, or otherwise prepared, and not specially provided for in this act, two cents per pound.

318. Chocolate (other than chocolate confectionery and chocolate commercially known as sweetened chocolate), two cents per pound.

319. Cocoa, prepared or manufactured, not specially provided for in this act, two cents per pound.

320. Cocoa butter or cocoa butterine, three and one half cents per pound.

321. Dandelion root and acorns prepared, and other articles used as coffee, or as substitutes for coffee, not specially provided for in this act, one and one half cents per pound.

Salt.—322. Salt in bags, sacks, barrels, or other packages, twelve cents per one hundred pounds; in bulk, eight cents per one hundred pounds: *Provided*, That imported salt in bond may be used in curing fish taken by vessels licensed to engage in the fisheries and in curing fish on the shores of the navigable waters of the United States, under such regulations as the Secretary of the Treasury shall prescribe; and upon proof that the salt has been used for either of the purposes stated in this proviso, the duties on the same shall be remitted: *Provided further*, That exporters of meats, whether packed or smoked, which have been cured in the United States with imported salt, shall, upon satisfactory proof, under such regulations as the Secretary of the Treasury shall prescribe, that such meats have been cured with imported salt, have refunded to them from the Treasury the duties paid on the salt so used in curing such exported meats, in amounts not less than one hundred dollars.

323. Starch, including all preparations, from whatever substance produced, fit for use as starch, two cents per pound.

324. Dextrine, burned starch, gum substitute, or British gum, one and one half cent per pound.

325. Mustard, ground or preserved, in bottles or otherwise, ten cents per pound.

326. Spices, ground or powdered, not specially provided for in this act, four cents per pound; cayenne pepper, two and one half cents per pound, unground; sage, three cents per pound.

327. Vinegar, seven and one half cents per gallon. The standard for vinegar shall be taken to be that strength which requires thirty-five grains of bicar-

bonate of potash to neutralize one ounce troy of vinegar.

328. There shall be allowed on the imported tin plate used in the manufacture of cans, boxes, packages, and all articles of tin ware exported, either empty or filled with domestic products, a drawback equal to the duty paid on such tin plate, less one per centum of such duty, which shall be retained for the use of the United States.

SCHEDULE H.—SPIRITS, WINES, AND OTHER BEVERAGES.

Spirits.—329. Brandy and other spirits manufactured or distilled from grain or other materials, and not specially provided for in this act, two dollars and fifty cents per proof gallon.

330. Each and every gauge or wine gallon of measurement shall be counted as at least one proof gallon; and the standard for determining the proof of brandy and other spirits or liquors of any kind imported shall be the same as that which is defined in the laws relating to internal revenue; but any brandy or other spirituous liquors, imported in casks of less capacity than fourteen gallons, shall be forfeited to the United States: *Provided*, That it shall be lawful for the Secretary of the Treasury, in his discretion, to authorize the ascertainment of the proof of wines, cordials, or other liquors, by distillation or otherwise, in case where it is impracticable to ascertain such proof by the means prescribed by existing law or regulations.

331. On all compounds or preparations of which distilled spirits are a component part of chief value, not specially provided for in this act, there shall be levied a duty not less than that imposed upon distilled spirits.

332. Cordials, liquors, arrack, absinthe, kirschwasser, ratafia, and other spirituous beverages or bitters of all kinds containing spirits, and not specially provided for in this act, two dollars and fifty cents per proof gallon.

333. No lower rate or amount of duty shall be levied, collected, and paid on brandy, spirits, and other spirituous beverages than that fixed by law for the description of first proof; but it shall be increased in proportion for any greater strength than the strength of first proof, and all imitations of brandy or spirits or wines imported by any names whatever shall be subject to the highest rate of duty provided for the genuine articles respectively intended to be represented, and in no case less than one dollar and fifty cents per gallon.

334. Bay rum or bay water, whether distilled or compounded, of first proof, and in proportion for any greater strength than first proof, one dollar and fifty cents per gallon.

Wines.—335. Champagne and all other sparkling wines, in bottles containing each not more than one quart and more than one pint, eight dollars per dozen; containing not more than one pint each and more than one half pint, four dollars per dozen; containing one half pint each or less, two dollars per dozen; in bottles or other vessels containing more than one quart each, in addition to eight dollars per dozen bottles, on the quantity in excess of one quart, at the rate of two dollars and fifty cents per gallon.

336. Still wines, including ginger wine or ginger cordial and vermouth, in casks, fifty cents per gallon; in bottles or jugs, per case of one dozen bottles or jugs, containing each not more than one quart and more than one pint, or twenty-four bottles or jugs containing each not more than one pint, one dollar and sixty cents per case; and any excess beyond these quantities found in such bottles or jugs shall be subject to a duty of five cents per pint or fractional part thereof, but no separate or additional duty shall be assessed on the bottles or jugs: *Provided*, That any wines, ginger cordial, or vermouth imported containing more than twenty-four per centum of alcohol shall be forfeited to the United States: *And provided further*, That there shall be no constructive or other allowance for breakage, leakage, or damage on wines,

liquors, cordials, or distilled spirits. Wines, cordials, brandy, and other spirituous liquors imported in bottles or jugs shall be packed in packages containing not less than one dozen bottles or jugs in each package; and all such bottles or jugs shall pay an additional duty of three cents for each bottle or jug unless specially provided for in this act.

337. Ale, porter, and beer, in bottles or jugs, forty cents per gallon, but no separate or additional duty shall be assessed on the bottles or jugs; otherwise than in bottles or jugs, twenty cents per gallon.

338. Malt extract, fluid, in casks, twenty cents per gallon; in bottles or jugs, forty cents per gallon; solid or condensed, forty per centum ad valorem.

339. Cherry juice and prune juice, or prune wine, and other fruit juice, not specially provided for in this act, containing not more than eighteen per centum of alcohol, sixty cents per gallon; if containing more than eighteen per centum of alcohol, two dollars and fifty cents per proof gallon.

340. Ginger ale, ginger beer, lemonade, soda water, and other similar waters in plain green or colored molded or pressed glass bottles, containing each not more than three fourths of a pint, thirteen cents per dozen; containing more than three fourths of a pint each and not more than one and one half pint, twenty-six cents per dozen; but no separate or additional duty shall be assessed on the bottles; if imported otherwise than in plain green or colored molded or pressed glass bottles, or in such bottles containing more than one and one half pint each, fifty cents per gallon, and in addition thereto, duty shall be collected on the bottles, or other coverings, at the rates which would be chargeable thereon if imported empty.

341. All mineral waters, and all imitations of natural mineral waters, and all artificial mineral waters not specially provided for in this act, in green or colored glass bottles containing not more than one pint, sixteen cents per dozen bottles. If containing more than one pint and not more than one quart, twenty-five cents per dozen bottles. But no separate duty shall be assessed upon the bottles. If imported otherwise than in plain green or colored glass bottles, or if imported in such bottles containing more than one quart, twenty cents per gallon, and in addition thereto duty shall be collected upon the bottles or other covering at the same rates that would be charged if imported empty or separately.

SCHEDULE I.—COTTON MANUFACTURES.

342. Cotton thread, yarn, warps, or warp yarn, whether single or advanced beyond the condition of single, by grouping or twisting two or more single yarns together, whether on beams or in bundles, skeins, or cops, or in any other form, except spool thread of cotton, hereinafter provided for, valued at not exceeding twenty-five cents per pound, ten cents per pound; valued at over twenty-five cents per pound and not exceeding forty cents per pound, eighteen cents per pound; valued at over forty cents per pound and not exceeding fifty cents per pound, twenty-three cents per pound; valued at over fifty cents per pound and not exceeding sixty cents per pound, twenty-eight cents per pound; valued at over sixty cents per pound and not exceeding seventy cents per pound, thirty-three cents per pound; valued at over seventy cents per pound and not exceeding eighty cents per pound, thirty-eight cents per pound; valued at over eighty cents per pound and not exceeding one dollar per pound, forty-eight cents per pound; valued at over one dollar per pound, fifty per centum ad valorem.

343. Spool thread of cotton, containing on each spool not exceeding one hundred yards of thread, seven cents per dozen; exceeding one hundred yards on each spool, for every additional one hundred yards of thread or fractional part thereof in excess of one hundred yards, seven cents per dozen spools.

344. Cotton cloth not bleached, dyed, colored, stained, painted, or printed, and not exceeding fifty threads to the square inch, counting the warp and filling, two cents per square yard; if bleached, two and

one half cents per square yard; if dyed, colored, stained, painted, or printed, four cents per square yard.

345. Cotton cloth not bleached, dyed, colored, stained, painted, or printed, exceeding fifty and not exceeding one hundred threads to the square inch, counting the warp and filling, two and one fourth cents per square yard; if bleached, three cents per square yard; if dyed, colored, stained, painted or printed, four cents per square yard: *Provided*, That on all cotton cloth not exceeding one hundred threads to the square inch, counting the warp and filling, not bleached, dyed, colored, stained, painted, or printed, valued at over six and one half cents per square yard; bleached, valued at over nine cents per square yard; and dyed, colored, stained, painted, or printed, valued at over twelve cents per square yard, there shall be levied, collected, and paid a duty of thirty-five per centum ad valorem.

346. Cotton cloth, not bleached, dyed, colored, stained, painted, or printed, exceeding one hundred and not exceeding one hundred and fifty threads to the square inch, counting the warp and filling, three cents per square yard; if bleached, four cents per square yard; if dyed, colored, stained, painted, or printed, five cents per square yard: *Provided*, That on all cotton cloth exceeding one hundred and not exceeding one hundred and fifty threads to the square inch, counting the warp and filling, not bleached, dyed, colored, stained, painted, or printed, valued at over seven and one half cents per square yard; bleached, valued at over ten cents per square yard; dyed, colored, stained, painted, or printed, valued at over twelve and one half cents per square yard, there shall be levied, collected, and paid a duty of forty per centum ad valorem.

347. Cotton cloth, not bleached, dyed, colored, stained, painted, or printed, exceeding one hundred and fifty and not exceeding two hundred threads to the square inch, counting the warp and filling, three and one half cents per square yard; if bleached, four and one half cents per square yard; if dyed, colored, stained, painted, or printed, five and one half cents per square yard: *Provided*, That on all cotton cloth exceeding one hundred and fifty and not exceeding two hundred threads to the square inch, counting the warp and filling, not bleached, dyed, colored, stained, painted, or printed, valued at over eight cents per square yard; bleached, valued at over ten cents per square yard; dyed, colored, stained, painted, or printed, valued at over twelve cents per square yard, there shall be levied, collected, and paid a duty of forty-five per centum ad valorem.

348. Cotton cloth, not bleached, dyed, colored, stained, painted, or printed, exceeding two hundred threads to the square inch, counting the warp and filling, four and one half cents per square yard; if bleached, five and one half cents per square yard; if dyed, colored, stained, painted, or printed, six and three fourths cents per square yard: *Provided*, That on all such cotton cloths not bleached, dyed, colored, stained, painted, or printed, valued at over ten cents per square yard; bleached, valued at over twelve cents per square yard; and dyed, colored, stained, painted, or printed, valued at over fifteen cents per square yard, there shall be levied, collected, and paid a duty of forty-five per centum ad valorem: *Provided further*, That on cotton cloth, bleached, dyed, colored, stained, painted, or printed, containing an admixture of silk, and not otherwise provided for, there shall be levied, collected, and paid a duty of ten cents per square yard, and in addition thereto thirty-five per centum ad valorem.

349. Clothing ready made, and articles of wearing apparel of every description, handkerchiefs, and neckties or neck wear composed of cotton or other vegetable fiber, or of which cotton or other vegetable fiber is the component material of chief value, made up or manufactured wholly or in part by the tailor, seamstress, or manufacturer, all of the foregoing not specially provided for in this act, fifty per centum ad valorem: *Provided*, That all such clothing ready

made and articles of wearing apparel having India rubber as a component material (not including gloves or elastic articles that are specially provided for in this act), shall be subject to a duty of fifty cents per pound, and in addition thereto fifty per centum ad valorem.

350. Plushes, velvets, velveteens, corduroys, and all pile fabrics composed of cotton or other vegetable fiber, not bleached, dyed, colored, stained, painted, or printed, ten cents per square yard and twenty per centum ad valorem; on all such goods if bleached, twelve cents per square yard and twenty per centum ad valorem; if dyed, colored, stained, painted or printed, fourteen cents per square yard and twenty per centum ad valorem; but none of the foregoing articles in this paragraph shall pay a less rate of duty than forty per centum ad valorem.

351. Chenille curtains, table covers, and all goods manufactured of cotton chenille, or of which cotton chenille forms the component material of chief value, sixty per centum ad valorem.

352. Stockings, hose, and half-hose, made on knitting machines or frames, composed of cotton or other vegetable fiber and not otherwise specially provided for in this act, and shirts and drawers composed of cotton, valued at not more than one dollar and fifty cents per dozen, thirty-five per centum ad valorem.

353. Stockings, hose, and half-hose, selvaged, fashioned, narrowed, or shaped wholly or in part by knitting machines or frames, or knit by hand, including such as are commercially known as seamless stockings, hose or half-hose, all of the above composed of cotton or other vegetable fiber, finished or unfinished, valued at not more than sixty cents per dozen pairs, twenty cents per dozen pairs, and in addition thereto twenty per centum ad valorem; valued at more than sixty cents per dozen pairs and not more than two dollars per dozen pairs, fifty cents per dozen pairs, and in addition thereto, thirty per centum ad valorem; valued at more than two dollars per dozen pairs, and not more than four dollars per dozen pairs, seventy-five cents per dozen pairs, and in addition thereto, forty per centum ad valorem; valued at more than four dollars per dozen pairs, one dollar per dozen pairs, and in addition thereto, forty per centum ad valorem; and all shirts and drawers composed of cotton or other vegetable fiber, valued at more than one dollar and fifty cents per dozen and not more than three dollars per dozen, one dollar per dozen, and in addition thereto, thirty-five per centum ad valorem; valued at more than three dollars per dozen, and not more than five dollars per dozen, one dollar and twenty-five cents per dozen, and in addition thereto, forty per centum ad valorem; valued at more than five dollars per dozen, and not more than seven dollars per dozen, one dollar and fifty cents per dozen, and in addition thereto, forty per centum ad valorem; valued at more than seven dollars per dozen, two dollars per dozen, and in addition thereto, forty per centum ad valorem.

354. Cotton cords, braids, boot, shoe, and corset lacings, thirty-five cents per pound; cotton gimps, galloons, webbing, goring, suspenders, and braces, any of the foregoing which are elastic or non-elastic, forty per centum ad valorem: *Provided*, That none of the articles included in this paragraph shall pay a less rate of duty than forty per centum ad valorem.

355. Cotton damask, in the piece or otherwise, and all manufactures of cotton not specially provided for in this act, forty per centum ad valorem.

SCHEDULE J.—FLAX, HEMP, AND JUTE, AND MANUFACTURES OF.

356. Flax straw, five dollars per ton.

357. Flax, not hackled or dressed, one cent per pound.

358. Flax, hackled, known as "dressed line," three cents per pound.

359. Tow, of flax or hemp, one half of one cent per pound.

360. Hemp, twenty-five dollars per ton; hemp,

hackled, known as line of hemp, fifty dollars per ton.

361. Yarn, made of jute, thirty-five per centum ad valorem.

362. Cables, cordage, and twine (except binding twine composed in whole or in part of isle or Tampico fiber, manilla, sisal grass, or sunn), one and one half cent per pound; all binding twine manufactured in whole or in part from isle or Tampico fiber, manilla, sisal grass, or sunn, seven tenths of one cent per pound; cables and cordage made of hemp, two and one half cents per pound; tarred cables and cordage, three cents per pound.

363. Hemp and jute carpets and carpetings, six cents per square yard.

364. Burlaps, not exceeding sixty inches in width, of flax, jute, or hemp, or of which flax, jute, or hemp, or either of them, shall be the component material of chief value (except such as may be suitable for bagging for cotton), one and five eighths cent per pound.

365. Bags for grain made of burlaps, two cents per pound.

366. Bagging for cotton, gunny cloth, and all similar material suitable for covering cotton, composed in whole or in part of hemp, flax, jute, or jute butts, valued at six cents or less per square yard, one and six tenths cent per square yard; valued at more than six cents per square yard, one and eight tenths cent per square yard.

367. Flax gill-netting, nets, webs, and seines, when the thread or twine of which they are composed is made of yarn of a number not higher than twenty, fifteen cents per pound and thirty-five per centum ad valorem; when made of threads or twines, the yarn of which is finer than number twenty, twenty cents per pound and in addition thereto forty-five per centum ad valorem.

368. Linen hydraulic hose, made in whole or in part of flax, hemp, or jute, twenty cents per pound.

369. Oil cloth for floors, stamped, painted, or printed, including linoleum, corticeo, cork carpets, figured or plain, and all other oil cloth (except silk oil cloth), and water-proof cloth, not specially provided for in this act, valued at twenty-five cents or less per square yard, forty per centum ad valorem; valued above twenty-five cents per square yard, fifteen cents per square yard and thirty per centum ad valorem.

370. Yarns or threads composed of flax or hemp, or of a mixture of either of these substances, valued at thirteen cents or less per pound, six cents per pound; valued at more than thirteen cents per pound, forty-five per centum ad valorem.

371. All manufactures of flax or hemp, or of which these substances, or either of them, is the component material of chief value, not specially provided for in this act, fifty per centum ad valorem: *Provided*, That until January first, eighteen hundred and ninety-four, such manufactures of flax containing more than one hundred threads to the square inch, counting both warp and filling, shall be subject to a duty of thirty-five per centum ad valorem in lieu of the duty herein provided.

372. Collars and cuffs, composed entirely of cotton, fifteen cents per dozen pieces and thirty-five per centum ad valorem; composed in whole or in part of linen, thirty cents per dozen pieces and forty per centum ad valorem; shirts, and all articles of wearing apparel of every description, not specially provided for in this act, composed wholly or in part of linen, fifty-five per centum ad valorem.

373. Laces, edgings, embroideries, insertings, neck ruffings, ruchings, trimmings, tuckings, lace window curtains, and other similar tamboured articles, and articles embroidered by hand or machinery, embroidered and hem-stitched handkerchiefs, and articles made wholly or in part of lace, ruffings, tuckings, or ruchings, all of the above-named articles, composed of flax, jute, cotton, or other vegetable fiber, or of which these substances or either of them, or a mixture of any of them is the component material of chief value, not specially provided for in this act, sixty

per centum ad valorem: *Provided*, That articles of wearing apparel, and textile fabrics, when embroidered by hand or machinery, and whether specially or otherwise provided for in this act, shall not pay a less rate of duty than that fixed by the respective paragraphs and schedules of this act upon embroideries of the materials of which they are respectively composed.

374. All manufactures of jute, or other vegetable fiber, except flax, hemp, or cotton, or of which jute or other vegetable fiber, except flax, hemp, or cotton, is the component material of chief value, not specially provided for in this act, valued at five cents per pound or less, two cents per pound; valued above five cents per pound, forty per centum ad valorem.

SCHEDULE K.—WOOL AND MANUFACTURES OF WOOL.

375. All wools, hair of the camel, goat, alpaca, and other like animals, shall be divided for the purpose of fixing the duties to be charged thereon into the three following classes:

376. Class one, that is to say, merino, mestiza, metz, or metis wools, or other wools of merino blood, immediate or remote, Down clothing wools, and wools of like character with any of the preceding, including such as have been heretofore usually imported into the United States from Buenos Ayres, New Zealand, Australia, Cape of Good Hope, Russia, Great Britain, Canada, and elsewhere, and also including all wools not hereinafter described or designated in classes two and three.

377. Class two, that is to say, Leicester, Cotswold, Lincolnshire, Down combing wools, Canada long wools, or other like combing wools of English blood, and usually known by the terms herein used, and also hair of the camel, goat, alpaca, and other like animals.

378. Class three, that is to say, Donskoi, native South American, Cordova, Valparaiso, native Smyrna, Russian camel's hair, and including all such wools of like character as have been heretofore usually imported into the United States from Turkey, Greece, Egypt, Syria, and elsewhere, excepting improved wools hereinafter provided for.

379. The standard samples of all wools which are now or may be hereafter deposited in the principal custom houses of the United States, under the authority of the Secretary of the Treasury, shall be the standards for the classification of wools under this act, and the Secretary of the Treasury shall have the authority to renew these standards and to make such additions to them from time to time as may be required, and he shall cause to be deposited like standards in other custom houses of the United States when they may be needed.

380. Whenever wools of class three shall have been improved by the admixture of merino or English blood from their present character as represented by the standard samples now or hereafter to be deposited in the principal custom houses of the United States, such improved wools shall be classified for duty either as class one or as class two, as the case may be.

381. The duty on wools of the first class which shall be imported washed shall be twice the amount of the duty to which they would be subjected if imported unwashed; and the duty on wools of the first and second classes which shall be imported scoured shall be three times the duty to which they would be subjected if imported unwashed.

382. Unwashed wools shall be considered such as shall have been shorn from the sheep without any cleansing—that is, in their natural condition. Washed wools shall be considered such as have been washed with water on the sheep's back. Wool washed in any other manner than on the sheep's back shall be considered as scoured wool.

383. The duty upon wool of the sheep or hair of the camel, goat, alpaca, and other like animals, which shall be imported in any other than ordinary condition, or which shall be changed in its character or condition for the purpose of evading the duty, or

which shall be reduced in value by the admixture of dirt or any other foreign substance, or which has been sorted or increased in value by the rejection of any part of the original fleece, shall be twice the duty to which it would be otherwise subject: *Provided*, That skirted wools as now imported are hereby excepted. Wools on which a duty is assessed amounting to three times or more than that which would be assessed if said wool was imported unwashed, such duty shall not be doubled on account of its being sorted. If any bale or package of wool or hair specified in this act imported as of any specified class, or claimed by the importer to be dutiable as of any specified class, shall contain any wool or hair subject to a higher rate of duty than the class so specified, the whole bale or package shall be subject to the highest rate of duty chargeable on wool of the class subject to such higher rate of duty, and if any bale or package be claimed by the importer to be shoddy, mungo, flocks, wool, hair, or other material of any class specified in this act, and such bale contain any admixture of any one or more of said materials, or of any other material, the whole bale or package shall be subject to duty at the highest rate imposed upon any article in said bale or package.

384. The duty upon all wools and hair of the first class shall be eleven cents per pound, and upon all wools or hair of the second class twelve cents per pound.

385. On wools of the third class and on camel's hair of the third class the value whereof shall be thirteen cents or less per pound, including charges, the duty shall be thirty-two per centum ad valorem.

386. On wools of the third class, and on camel's hair of the third class, the value whereof shall exceed thirteen cents per pound including charges, the duty shall be 50 per cent. ad valorem.

387. Wools on the skin shall pay the same rate as other wools, the quantity and value to be ascertained under such rules as the Secretary of the Treasury may prescribe.

388. On noils, shoddy, top waste, slubbing waste, roving waste, ring waste, yarn waste, garneted waste, and all other wastes composed wholly or in part of wool, the duty shall be thirty cents per pound.

389. On woolen rags, mungo, and flocks, the duty shall be ten cents per pound.

390. Wools and hair of the camel, goat, alpaca, or other like animals, in the form of roving, roving, or tops, and all wool and hair which have been advanced in any manner or by any process of manufacture beyond the washed or scoured condition, not specially provided for in this act, shall be subject to the same duties as are imposed upon manufactures of wool not specially provided for in this act.

391. On woolen and worsted yarns made wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, valued at not more than thirty cents per pound, the duty per pound shall be two and one half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto, thirty-five per centum ad valorem; valued at more than thirty cents and not more than forty cents per pound, the duty per pound shall be three times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto, thirty-five per centum ad valorem; valued at more than forty cents per pound, the duty per pound shall be three and one half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto, forty per centum ad valorem.

392. On woolen or worsted cloths, shawls, knit fabrics, and all fabrics made on knitting machines or frames, and all manufactures of every description made wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, not specially provided for in this act, valued at not more than thirty cents per pound, the duty per pound shall be three times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition there-

to forty per centum ad valorem; valued at more than thirty and not more than forty cents per pound, the duty per pound shall be three and one half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto forty per centum ad valorem; valued at above forty cents per pound, the duty per pound shall be four times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto fifty per centum ad valorem.

393. On blankets, hats of wool, and flannels for underwear composed wholly or in part of wool, the hair of the camel, goat, alpaca, or other animals, valued at not more than thirty cents per pound, the duty per pound shall be the same as the duty imposed by this act on one pound and one half of unwashed wool of the first class, and in addition thereto thirty per centum ad valorem; valued at more than thirty and not more than forty cents per pound, the duty per pound shall be twice the duty imposed by this act on a pound of unwashed wool of the first class; valued at more than forty cents and not more than fifty cents per pound, the duty per pound shall be three times the duty imposed by this act on a pound of unwashed wool of the first class; and in addition thereto thirty-five per centum ad valorem. On blankets and hats of wool composed wholly or in part of wool, the hair of the camel, goat, alpaca, or other animal, valued at more than fifty cents per pound, the duty per pound shall be three and a half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto forty per centum ad valorem. Flannels composed wholly or in part of wool, the hair of the camel, goat, alpaca, or other animals, valued at above fifty cents per pound shall be classified and pay the same duty as women's and children's dress goods, coat linings, Italian cloths, and goods of similar character and description provided by this act.

394. On women's and children's dress goods, coat linings, Italian cloths, and goods of similar character or description of which the warp consists wholly of cotton or other vegetable material, with the remainder of the fabric composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, valued at not exceeding fifteen cents per square yard, seven cents per square yard, and in addition thereto forty per centum ad valorem; valued at above fifteen cents per square yard, eight cents per square yard, and in addition thereto fifty per centum ad valorem: *Provided*, That on all such goods weighing over four ounces per square yard the duty per pound shall be four times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto fifty per centum ad valorem.

395. On women's and children's dress goods, coat linings, Italian cloth, bunting, and goods of similar description or character composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, and not specially provided for in this act, the duty shall be twelve cents per square yard, and in addition thereto fifty per centum ad valorem: *Provided*, That on all such goods weighing over four ounces per square yard the duty per pound shall be four times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto fifty per centum ad valorem.

396. On clothing, ready made, and articles of wearing apparel of every description, made up or manufactured wholly or in part, not specially provided for in this act, felts not woven and not specially provided for in this act, and plushes and other pile fabrics, all the foregoing, composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals the duty per pound shall be four and one half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto sixty per centum ad valorem.

397. On cloaks, dolmans, jackets, talmas, ulsters, or other outside garments for ladies and children's

apparel and goods of similar description, or used for like purposes, composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, made up or manufactured wholly or in part, the duty per pound shall be four and one half times the duty imposed by this act on a pound of unwashed wool of the first class, and in addition thereto sixty per centum ad valorem.

398. On webbings, gorings, suspenders, braces, beltings, bindings, braids, galloons, fringes, gimps, cords, cords and tassels, dress trimmings, laces and embroideries, head nets, buttons, or barrel buttons, or buttons of other forms, for tassels or ornaments, wrought by hand or braided by machinery, any of the foregoing which are elastic or non-elastic, made of wool, worsted, the hair of the camel, goat, alpaca, or other animals, or of which wool, worsted, the hair of the camel, goat, alpaca, or other animals is a component material, the duty shall be sixty cents per pound, and in addition thereto sixty per centum ad valorem.

399. Aubusson, Axminster, moquettes, and chenille carpets, figured or plain, carpets woven whole for rooms, and all carpets or carpeting of like character or description, and Oriental, Berlin, and other similar rugs, sixty cents per square yard, and in addition thereto forty per centum ad valorem.

400. Saxony, Wilton, and Tournay velvet carpets, figured or plain, and all carpets or carpeting of like character or description, sixty cents per square yard, and in addition thereto forty per centum ad valorem.

401. Brussels carpets, figured or plain, and all carpets or carpeting of like character or description, forty-four cents per square yard, and in addition thereto forty per centum ad valorem.

402. Velvet and tapestry velvet carpets, figured or plain, printed on the warp or otherwise, and all carpet or carpeting of like character or description, forty cents per square yard, and in addition thereto forty per centum ad valorem.

403. Tapestry Brussels carpets, figured or plain, and all carpets or carpeting of like character or description, printed on the warp or otherwise, twenty-eight cents per square yard, and in addition thereto forty per centum ad valorem.

404. Treble ingrain, three-ply, and all chain Venetian carpets, nineteen cents per square yard, and in addition thereto forty per centum ad valorem.

405. Wool Dutch and two-ply ingrain carpets, fourteen cents per square yard, and in addition thereto forty per centum ad valorem.

406. Druggets and bookings, printed, colored, or otherwise, twenty-two cents per square yard, and in addition thereto forty per centum ad valorem. Felt carpeting, figured or plain, eleven cents per square yard, and in addition thereto forty per centum ad valorem.

407. Carpets and carpeting of wool, flax, or cotton, or composed in part of either, not specially provided for in this act, fifty per centum ad valorem.

408. Mats, rugs, screens, covers, hassocks, bedsides, art squares, and other portions of carpets or carpeting made wholly or in part of wool, and not specially provided for in this act, shall be subjected to the rate of duty herein imposed on carpets or carpetings of like character or description.

SCHEDULE L.—SILK AND SILK GOODS.

409. Silk partially manufactured from cocoons or from waste silk, and not further advanced or manufactured than carded, or combed silk, fifty cents per pound.

410. Thrown silk, not more advanced than singles, tram, organzine sewing silk, twist, floss, and silk threads or yarns of every description, except spun silk, thirty per centum ad valorem, spun silk in skeins or cops or on beams, thirty-five per centum ad valorem.

411. Velvets, plushes, or other pile fabrics, containing, exclusive of selvages, less than seventy-five per centum in weight of silk, one dollar and fifty cents

per pound and fifteen per centum ad valorem; containing, exclusive of selvages, seventy-five per centum or more in weight of silk, three dollars and fifty cents per pound and fifteen per centum ad valorem; but in no case shall any of the foregoing articles pay a less rate of duty than fifty per centum ad valorem.

412. Webbing, gorings, suspenders braces, belt-ings, bindings, braids, galloons, fringes, cords and tassels, any of the foregoing which are elastic or non-elastic, buttons, and ornaments, made of silk, or of which silk is the component material of chief value, fifty per centum ad valorem.

413. Laces and embroideries, handkerchiefs, neck ruffings and ruchings, clothing ready made, and articles of wearing apparel of every description, including knit goods, made up or manufactured wholly or in part by the tailor, seamstress, or manufacturer, composed of silk, or of which silk is the component material of chief value, not specially provided for in this act, sixty per centum ad valorem: *Provided*, That all such clothing ready made and articles of wearing apparel when composed in part of India-rubber (not including gloves or elastic articles that are specially provided for in this act), shall be subject to a duty of eight cents per ounce, and in addition thereto sixty per centum ad valorem.

414. All manufactures of silk, or of which silk is the component material of chief value, not specially provided for in this act, fifty per centum ad valorem: *Provided*, That all such manufactures of which wool, or the hair of the camel, goat, or other like animals, is a component material, shall be classified as manufactures of wool.

SCHEDULE M.—PULP, PAPERS, AND BOOKS.

Pulp and Paper.—415. Mechanically ground wood pulp, two dollars and fifty cents per ton dry weight; chemical wood pulp unbleached, six dollars per ton dry weight; bleached, seven dollars per ton dry weight.

416. Sheathing paper, ten per centum ad valorem.

417. Printing paper unsized, suitable only for books and newspapers, fifteen per centum ad valorem.

418. Printing paper sized or glued, suitable only for books and newspapers, twenty per centum ad valorem.

419. Papers known commercially as copying paper, filtering paper, silver paper, and all tissue paper, white or colored, made up in copying books, reams, or in any other form, eight cents per pound, and in addition thereto fifteen per centum ad valorem; albumenized or sensitized paper, thirty-five per centum ad valorem.

420. Papers known commercially as surface-coated papers, and manufactures thereof, cardboards, lithographic prints from either stone or zinc, bound or unbound (except illustrations when forming a part of a periodical, newspaper, or in printed books accompanying the same), and all articles produced either in whole or in part by lithographic process, and photograph, autograph, and scrap albums, wholly or partially manufactured, thirty-five per centum ad valorem.

Manufactures of Paper.—421. Paper envelopes, twenty-five cents per thousand.

422. Paper hangings and paper for screens or fire boards, writing paper, drawing paper, and all other paper not specially provided for in this act, twenty-five per centum ad valorem.

423. Books, including blank books of all kinds, pamphlets and engravings, bound or unbound, photographs, etchings, maps, charts, and all printed matter not specially provided for in this act, twenty-five per centum ad valorem.

424. Playing cards, fifty cents per pack.

425. Manufactures of paper, or of which paper is the component material of chief value, not specially provided for in this act, twenty-five per centum ad valorem.

SCHEDULE N.—SUNDRIES.

426. Bristles, ten cents per pound.

427. Brushes, and brooms of all kinds, including feather dusters and hair pencils in quills, forty per centum ad valorem.

Buttons and Button Forms.—428. Button forms: Lastings, molair, cloth, silk, or other manufactures of cloth, woven or made in patterns of such size, shape, or form, or cut in such manner as to be fit for buttons exclusively, ten per centum ad valorem.

429. Buttons commercially known as agate buttons, twenty-five per centum ad valorem. Pearl and shell buttons, two and one half cents per line button measure of one fortieth of one inch per gross, and in addition thereto twenty-five per centum ad valorem.

430. Ivory, vegetable ivory, bone or horn buttons, fifty per centum ad valorem.

431. Shoe buttons, made of paper, board, papier maché, shup, or other similar material not specially provided for in this act, valued at not exceeding three cents per gross, one cent per gross.

432. Coal, bituminous, and shale, seventy-five cents per ton of twenty-eight bushels, eighty pounds to the bushel: coal slack or culm, such as will pass through a half-inch screen, thirty cents per ton of twenty-eight bushels, eighty pounds to the bushel.

433. Coke, twenty per centum ad valorem.

434. Cork bark, cut into squares or cubes, ten cents per pound; manufactured corks, fifteen cents per pound.

435. Dice, draughts, chess men, chess balls, and billiard, pool, and bagatelle balls, of ivory, bone, or other materials, fifty per centum ad valorem.

436. Dolls, doll heads, toy marbles of whatever material composed, and all other toys not composed of rubber, china, porcelain, parian, bisque, earthen, or stone ware, and not specially provided for in this act, thirty-five per centum ad valorem.

437. Emery grains, and emery manufactured, ground, pulverized, or refined, one cent per pound.

Explosive Substances.—438. Fire-crackers of all kinds, eight cents per pound, but no allowance shall be made for tare or damage thereon.

439. Fulminates, fulminating powders, and like articles, not specially provided for in this act, thirty per centum ad valorem.

440. Gunpowder, and all explosive substances used for mining, blasting, artillery, or sporting purposes, when valued at twenty cents or less per pound, five cents per pound; valued above twenty cents per pound, eight cents per pound.

441. Matches, friction or lucifer, of all descriptions, per gross of one hundred and forty-four boxes, containing not more than one hundred matches per box, ten cents per gross; when imported otherwise than in boxes containing not more than one hundred matches each, one cent per one thousand matches.

442. Percussion caps, forty per centum ad valorem.

443. Feathers and downs of all kinds, crude or not dressed, colored, or manufactured, not specially provided for in this act, ten per centum ad valorem; when dressed, colored, or manufactured, including quilts of down and other manufactures of down, and also including dressed and finished birds suitable for millinery ornaments, and artificial and ornamental feathers and flowers, or parts thereof, of whatever material composed, not specially provided for in this act, fifty per centum ad valorem.

444. Furs, dressed on the skin but not made up into articles, and furs not on the skin, prepared for hatters' use, twenty per centum ad valorem.

445. Glass beads, loose, unthreaded or unstrung, ten per centum ad valorem.

446. Gun-wads of all descriptions, thirty-five per centum ad valorem.

447. Hair, human, if clean or drawn but not manufactured, twenty per centum ad valorem.

448. Hair cloth, known as "crinoline cloth," eight cents per square yard.

439. Hair cloth, known as "hair seating," thirty cents per square yard.

450. Hair, curled, suitable for beds or mattresses, fifteen per centum ad valorem.

451. Hats for men's, women's, and children's wear, composed of the fur of the rabbit, beaver, or other animals or of which such fur is the component material of chief value, wholly or partially manufactured, including fur-hat bodies, fifty-five per centum ad valorem.

Jewelry and Precious Stones.—452. Jewelry: All articles, not elsewhere specially provided for in this act, composed of precious metals or imitations thereof, whether set with coral, jet, or pearls, or with diamonds, rubies, cameos, or other precious stones, or imitations thereof, or otherwise, and which shall be known commercially as "jewelry," and cameos in frames, fifty per centum ad valorem.

453. Pearls, ten per centum ad valorem.

454. Precious stones of all kinds, cut but not set, ten per centum ad valorem; if set, and not specially provided for in this act, twenty-five per centum ad valorem. Imitations of precious stones composed of paste or glass not exceeding one inch in dimensions, not set, ten per centum ad valorem.

Leather and Manufactures of.—455. Bend or belting leather and sole leather, and leather not specially provided for in this act, ten per centum ad valorem.

456. Calf skins, tanned, or tanned and dressed, dressed upper leather, including patent, enameled, and japanned leather, dressed or undressed, and finished; chamois or other skins not specially enumerated or provided for in this act, twenty per centum ad valorem; book-binders' calf skins, kangaroo, sheep, and goat skins, including lamb and kid skins, dressed and finished, twenty per centum ad valorem; skins for morocco, tanned but unfinished, ten per centum ad valorem; pianoforte leather and pianoforte action leather, thirty-five per centum ad valorem; japanned calf skins, thirty per centum ad valorem; boots and shoes, made of leather, twenty-five per centum ad valorem.

457. But leather cut into shoe uppers or vamps, or other forms, suitable for conversion into manufactured articles, shall be classified as manufactures of leather, and pay duty accordingly.

458. Gloves of all descriptions, composed wholly or in part of kid or other leather, and whether wholly or partially manufactured, shall pay duty at the rates fixed in connection with the following specified kinds thereof, fourteen inches in extreme length when stretched to the full extent, being in each case hereby fixed as the standard, and one dozen pairs as the basis, namely: Ladies' and children's schuasnachen of said length or under, one dollar and seventy-five cents per dozen; ladies' and children's lamb of said length or under, two dollars and twenty-five cents per dozen; ladies' and children's kid of said length or under, three dollars and twenty-five cents per dozen; ladies' and children's suedes of said length or under, fifty per centum ad valorem; all other ladies' and children's leather gloves, and all men's leather gloves of said length or under, fifty per centum ad valorem; all leather gloves over fourteen inches in length, fifty per centum ad valorem; and in addition to the above rates there shall be paid on all men's gloves one dollar per dozen, on all lined gloves, one dollar per dozen; on all pique or prick seam gloves, fifty cents per dozen; on all embroidered gloves, with more than three single strands or cords, fifty cents per dozen pairs. *Provided*, That all gloves represented to be of a kind or grade below their actual kind or grade shall pay an additional duty of five dollars per dozen pairs: *Provided further*, That none of the articles named in this paragraph shall pay a less rate of duty than fifty per centum ad valorem.

Miscellaneous Manufactures.—459. Manufactures of alabaster, amber, asbestos, bladders, coral, catgut, or whiptut or wormgut, jet, paste, spar, wax, or of which these substances or either of them as the component material of chief value, not specially provided

for in this act, twenty-five per centum ad valorem; osier or willow prepared for basket-makers' use, thirty per centum ad valorem; manufactures of osier or willow, forty per centum ad valorem.

460. Manufactures of bone, chip, grass, horn, India-rubber, palm leaf, straw, weeds, or whalebone, or of which these substances or either of them is the component material of chief value, not specially provided for in this act, thirty per centum ad valorem.

461. Manufactures of leather, fur, gutta-percha, vulcanized India-rubber, known as hard rubber, human hair, papier-maché, indurated-fiber wares and other manufactures composed of wood or other pulp, or of which these substances or either of them is the component material of chief value, all of the above not specially provided for in this act, thirty-five per centum ad valorem.

462. Manufactures of ivory, vegetable ivory, mother-of-pearl, and shell, or of which these substances or either of them is the component material of chief value, not specially provided for in this act, forty per centum ad valorem.

463. Masks, composed of paper or pulp, thirty-five per centum ad valorem.

464. Matting made of cocoa fiber or rattan, twelve cents per square yard; mats made of cocoa fiber or rattan, eight cents per square foot.

465. Paintings, in oil or water colors, and statuary, not otherwise provided for in this act, fifteen per centum ad valorem; but the term "statuary" as herein used shall be understood to include only such statuary as is cut, carved, or otherwise wrought by hand from a solid block or mass of marble, stone, or alabaster, or from metal, and as is the professional production of a statuary or sculptor only.

466. Pencils of wood filled with lead or other material, and pencils of lead, fifty cents per gross and thirty per centum ad valorem; slate pencils, four cents per gross.

467. Pencil leads not in wood, ten per centum ad valorem.

Pipes and Smokers' Articles.—468. Pipes, pipe bowls, of all materials, and all smokers' articles whatsoever, not specially provided for in this act, including cigarette books, cigarette-book covers, pouches for smoking or chewing tobacco, and cigarette paper in all forms, seventy per centum ad valorem; all common tobacco pipes of clay, fifteen cents per gross.

469. Plush, black, known commercially as hatters' plush, composed of silk, or of silk and cotton, and used exclusively for making men's hats, ten per centum ad valorem.

470. Umbrellas, parasols, and sunshades, covered with silk or alpaca, fifty-five per centum ad valorem; if covered with other material, forty-five per centum ad valorem.

471. Umbrellas, parasols, and sunshades, sticks for, if plain, finished or unfinished, thirty-five per centum ad valorem; if carved, fifty per centum ad valorem.

472. Waste, not specially provided for in this act, ten per centum ad valorem.

FREE LIST.

Sec. 2. On and after the sixth day of October, eighteen hundred and ninety, unless otherwise specially provided for in this act, the following articles when imported shall be exempt from duty:

473. Acids used for medicinal, chemical, or manufacturing purposes, not specially provided for in this act.

474. Aconite.

475. Acorns, raw, dried or undried, but unground.

476. Agates, unmanufactured.

477. Albumen.

478. Alizarine, natural or artificial, and dyes commercially known as alizarine yellow, alizarine orange, alizarine green, alizarine blue, alizarine brown, alizarine black.

479. Amber, unmanufactured, or crude gum.

480. Ambergria.

481. Aniline salts.

482. Any animal imported specially for breeding purposes shall be admitted free: *Provided*, That no such animal shall be admitted free unless pure bred of a recognized breed, and duly registered in the book of record established for that breed: *And provided further*, That certificate of such record and of the pedigree of such animal shall be produced and submitted to the customs officer, duly authenticated by the proper custodian of such book of record, together with the affidavit of the owner, agent, or importer that such animal is the identical animal described in said certificate of record and pedigree. The Secretary of the Treasury may prescribe such additional regulations as may be required for the strict enforcement of this provision.

483. Animals brought into the United States temporarily for a period not exceeding six months, for the purpose of exhibition or competition for prizes offered by any agricultural or racing association; but a bond shall be given in accordance with regulations prescribed by the Secretary of the Treasury; also, teams of animals, including their harness and tackle and the wagons or other vehicles actually owned by persons emigrating from foreign countries to the United States with their families, and in actual use for the purpose of such emigration under such regulations as the Secretary of the Treasury may prescribe; and wild animals intended for exhibition in zoological collections for scientific and educational purposes, and not for sale or profit.

484. Annatto, roucou, rocou, or orleans, and all extracts of.

485. Antimony ore, crude sulphite of.

486. Apatite.

487. Argal, or argol, or crude tartar.

488. Arrow root, raw or unmanufactured.

489. Arsenic and sulphide of, or orpiment.

490. Arseniate of aniline.

491. Art educational stops, composed of glass and metal and valued at not more than six cents per gross.

492. Articles in a crude state used in dyeing or tanning not specially provided for in this act.

493. Articles the growth, produce, and manufacture of the United States, when returned after having been exported, without having been advanced in value or improved in condition by any process of manufacture or other means; casks, barrels, carboys, bags, and other vessels of American manufacture exported filled with American products, or exported empty and returned filled with foreign products, including shooks when returned as barrels or boxes; also quicksilver flasks or bottles, of either domestic or foreign manufacture, which shall have been actually exported from the United States; but proof of the identity of such articles shall be made, under general regulations to be prescribed by the Secretary of the Treasury; and if any such articles are subject to internal tax at the time of exportation such tax shall be proved to have been paid before exportation and not refunded: *Provided*, That this paragraph shall not apply to any article upon which an allowance of drawback has been made, the reimportation of which is hereby prohibited, except upon payment of duties equal to the drawbacks allowed; or to any article manufactured in bonded warehouse and exported under any provision of law: *And provided further*, That when manufactured tobacco which has been exported without payment of internal-revenue tax shall be reimported it shall be retained in the custody of the collector of customs until internal-revenue stamps in payment of the legal duties shall be placed thereon.

494. Asbestos, unmanufactured.

495. Ashes, wood and lye of, and beet-root ashes.

496. Asphaltum and bitumen, crude.

497. Asafetida.

498. Balm of Gilead.

499. Barks, cinchona or other from which quinine may be extracted.

500. Baryta, carbonate of, or witherite.

501. Bauxite, or beauxite.

502. Beeswax.

503. Bells, broken, and bell metal broken and fit only to be remanufactured.

504. Birds, stuffed, not suitable for millinery ornaments, and bird skins, prepared for preservation, but not further advanced in manufacture.

505. Birds and land and water fowls.

506. Bismuth.

507. Bladders, including fish bladders or fish sounds, crude, and all integuments of animals not specially provided for in this act.

508. Blood, dried.

509. Bologna sausages.

510. Bolting cloths, especially for milling purposes, but not suitable for the manufacture of wearing apparel.

511. Bones, crude, or not burned, calcined, ground, steamed, or otherwise manufactured, and bone dust or animal carbon, and bone ash, fit only for fertilizing purposes.

512. Books, engravings, photographs, bound or unbound etchings, maps, and charts, which shall have been printed and bound or manufactured more than twenty years at the date of importation.

513. Books and pamphlets printed exclusively in languages other than English; also books and music, in raised print, used exclusively by the blind.

514. Books, engravings, photographs, etchings, bound or unbound, maps and charts imported by authority or for the use of the United States or for the use of the Library of Congress.

515. Books, maps, lithographic prints, and charts, specially imported, not more than two copies in any one invoice, in good faith, for the use of any society incorporated or established for educational, philosophical, literary, or religious purposes, or for the encouragement of the fine arts, or for the use or by order of any college, academy, school, or seminary of learning in the United States, subject to such regulations as the Secretary of the Treasury shall prescribe.

516. Books, or libraries, or parts of libraries, and other household effects of persons or families from foreign countries, if actually used abroad by them not less than one year, and not intended for any other person or persons, nor for sale.

517. Brazil paste.

518. Braids, plaits, laces, and similar manufactures composed of straw, chip, grass, palm leaf, willow, osier, or rattan, suitable for making or ornamenting hats, bonnets, and hoods.

519. Brazilian pebble, unwrought or unmanufactured.

520. Breccia, in block or slabs.

521. Bromine.

522. Bullion, gold or silver.

523. Burgundy pitch.

524. Cabinets of old coins and medals, and other collections of antiquities, but the term "antiquities" as used in this act shall include only such articles as are suitable for souvenirs or cabinet collections, and which shall have been produced at any period prior to the year seventeen hundred.

525. Cadmium.

526. Calamine.

527. Camphor, crude.

528. Castor or castoreum.

529. Catgut, whiplug, or wormgut, unmanufactured, or not further manufactured than in strings or cords.

530. Cerium.

531. Chalk, unmanufactured.

532. Charcoal.

533. Chicory root, raw, dried, or undried, but unground.

534. Civet, crude.

535. Clay—common blue clay in casks suitable for the manufacture of crucibles.

536. Coal, anthracite.

537. Coal stores of American vessels; but none shall be unloaded.

538. Coal tar, crude.

539. Cobalt and cobalt ore.
 540. *Coccus indicus*.
 541. Cochineal.
 542. Cocoa, or cacao, crude, and fiber, leaves, and shells of.
 543. Coffee.
 544. Coins, gold, silver, and copper.
 545. Coir, and coir yarn.
 546. Copper, old, taken from the bottom of American vessels compelled by marine disaster to repair in foreign ports.
 547. Coral, marine, uncut, and unmanufactured.
 548. Cork wood, or cork bark, unmanufactured.
 549. Cotton, and cotton waste or flocks.
 550. Cryolite, or kryolith.
 551. Cudbear.
 552. Curling stones, or quoits, and curling-stone handles.
 553. Curry, and curry powder.
 554. Cutch.
 555. Cuttle-fish bone.
 556. Dandelion roots, raw, dried, or undried, but unground.
 557. Diamonds and other precious stones, rough or uncut, including glaziers' and engravers' diamonds not set, and diamond dust or bort, and jewels to be used in the manufacture of watches.
 558. Divi-divi.
 559. Dragon's blood.
 560. Drugs, such as barks, beans, berries, balsams, buds, bulbs, and bulbous roots, excrescences such as nut-galls, fruits flowers, dried fibers, and dried insects, grains, gums, and gum-resin, herbs, leaves, lichens, mosses, nuts, roots, and stems, spices, vegetables, seeds aromatic, and seeds of morbid growth, weeds, and woods used expressly for dyeing; any of the foregoing which are not edible and are in a crude state, and are not advanced in value or condition by refining or grinding, or by other process of manufacture, and not specially provided for in this act.
 561. Eggs of birds, fish, and insects.
 562. Emery ore.
 563. Ergot.
 564. Fara, common palm leaf and palm leaf unmanufactured.
 565. Farina.
 566. Fashion plates, engraved on steel or copper or on wood, colored or plain.
 567. Feathers and downs for beds.
 568. Feldspar.
 569. Felt, adhesive, for sheathing vessels.
 570. Fibrin in all forms.
 571. Fish, the product of American fisheries, and fresh or frozen fish (except salmon) caught in fresh waters by American vessels, or with nets or other devices owned by citizens of the United States.
 572. Fish for bait.
 573. Fish skins.
 574. Flint, flints, and ground flint stones.
 575. Floor matting manufactured from round or split straw, including what is commonly known as Chinese matting.
 576. Fossils.
 577. Fruit plants, tropical and semi-tropical, for the purpose of propagation or cultivation.
 578. Currants, Zante or other.
 579. Dates.
 580. Fruits, green, ripe, or dried, not specially provided for in this act.
 581. Tamarinds.
 582. Cocoa-nuts.
 583. Brazil nuts.
 584. Cream nuts.
 585. Palm nuts.
 586. Palm-nut kernels.
 587. Furs, undressed.
 588. Fur skins of all kinds not dressed in any manner.
 589. Gambier.
 590. Glass, broken, and old glass, which can not be cut for use, and fit only to be remanufactured.
 591. Glass plates or disks, rough cut or unwrought, for use in the manufacture of optical instruments, spectacles, and eyeglasses, and suitable only for such use: *Provided, however*, That such disks exceeding eight inches in diameter may be polished sufficiently to enable the character of the glass to be determined.
Grasses and Fibers.—592. Istle or Tampico fiber.
 593. Jute.
 594. Jute butts.
 595. Manilla.
 596. Sisal grass.
 597. Sunn.
 And all other textile grasses or fibrous vegetable substances, unmanufactured or undressed, not specially provided for in this act.
 598. Gold beaters' molds and gold beaters' skins.
 599. Grease, and oils, such as are commonly used in soap-making, or in wire drawing, or for stuffing or dressing leather and which are fit only for such uses, not specially provided for in this act.
 600. Guano, manures, and all substances expressly used for manure.
 601. Gunny bags and gunny cloths, old or refuse, fit only for remanufacture.
 602. Guts, salted.
 603. Gutta percha, crude.
 604. Hair of horse, cattle, and other animals, cleaned or uncleaned, drawn or undrawn, but unmanufactured, not specially provided for in this act; and human hair, raw, uncleaned, and not drawn.
 605. Hides, raw or uncured, whether dry, salted, or pickled, Angora goat skins, raw, without the wool, unmanufactured, asses' skins, raw or unmanufactured, and skins, except sheep skins with the wool on.
 606. Hide cuttings, raw, with or without hair, and all other glue-stock.
 607. Hide rope.
 608. Hones and whetstones.
 609. Hoofs, unmanufactured.
 610. Hop roots for cultivation.
 611. Horns and parts of, unmanufactured, including horn strips and tips.
 612. Ice.
 613. India-rubber, crude, and milk of, and old scrap or refuse India-rubber which has been worn out by use and is fit only for remanufacture.
 614. Indigo.
 615. Iodine, crude.
 616. Ipecac.
 617. Iridium.
 618. Ivory and vegetable ivory, not sawed, cut, or otherwise manufactured.
 619. Jalap.
 620. Jet, unmanufactured.
 621. Joss-stick, or joss light.
 622. Junk, old.
 623. Kelp.
 624. Kieserite.
 625. Kyanite, or cyanite, and kainite.
 626. Lac dye, crude, seed, button, stick, and shell.
 627. Lac spirits.
 628. Lactarine.
 629. Lava, unmanufactured.
 630. Leeches.
 631. Lemon juice, lime juice, and sour-orange juice.
 632. Licorice root, unground.
 633. Life boats and life-saving apparatus specially imported by societies incorporated or established to encourage the saving of human life.
 634. Lime, citrate of.
 635. Lime, chloride of, or bleaching powder.
 636. Lithographic stones not engraved.
 637. Litmus, prepared or not prepared.
 638. Loadstones.
 639. Madder and munjeet, or Indian madder, ground or prepared, and all extracts of.
 640. Magnesite, or native mineral carbonate of magnesia.
 641. Magnesium.
 642. Magnets.
 643. Manganese, oxide and ore of.

644. Manna.
645. Manuscripts.
646. Marrow, crude.
647. Marsh mallows.
648. Medals of gold, silver, or copper such as trophies or prizes.
649. Meerschmum, crude or manufactured.
650. Mineral waters, all not artificial.
651. Minerals, crude, or not advanced in value or condition by refining or grinding, or by other process of manufacture not specially provided for in this act.
652. Models of inventions and of other improvements in the arts, including patterns for machinery, but no article shall be deemed a model or pattern which can be fitted for use otherwise.
653. Moss, sea-weeds, and vegetable substances, crude or unmanufactured, not otherwise specially provided for in this act.
654. Musk, crude, in natural pods.
655. Myrobalan.
656. Needles, hand-sewing and darning.
657. Newspapers and periodicals: but the term "periodicals" as herein used shall be understood to embrace only unbound or paper-covered publications, containing current literature of the day and issued regularly at stated periods, as weekly, monthly, or quarterly.
658. Nux vomica.
659. Oakum.
660. Oil cake.
661. Oils: Almond, amber, crude and rectified ambergris, anise or anise seed, aniline, aspic or spike lavender, bergamot, cajuput, caraway, cassia, cinnamon, cedrat, camomile, citronella or lemon grass, civet, fennel, jasmine or jasminine, juglandium, juniper, lavender, lemon, limes, mace, neroli or orange flower, nut oil or oil of nuts not otherwise specially provided for in this act, orange oil, olive oil for manufacturing or mechanical purposes unfit for eating and not otherwise provided for in this act, ottar of roses, palm and coccoos-nut, rosemary or anthonas, sesame or sesamum seed or bean, thyme, origanum red or white, valerian; and also spermaceti, whale, and other fish oils of American fisheries, and all other articles the produce of such fisheries.
662. Olives, green or prepared.
663. Opium, crude or unmanufactured, and not adulterated, containing nine per centum and over of morphia.
664. Orange and lemon peel, not preserved, candied, or otherwise prepared.
665. Orchil, or orchil liquid.
666. Orchids, lily of the valley, azaleas, palms, and other plants used for forcing under glass for cut flowers or decorative purposes.
667. Ores of gold, silver, and nickel, and nickel matte: *Provided*, That ores of nickel, and nickel matte, containing more than two per centum of copper, shall pay a duty of one half of one cent per pound on the copper contained therein.
668. Osmium.
669. Palladium.
670. Paper stock, crude, of every description, including all grasses, fibers, rags (other than wool), waste, shavings, clippings, old paper, rope ends, waste rope, waste bagging, old or refuse gunny bags, or gunny cloth, and poplar or other woods fit only to be converted into paper.
671. Paraffine.
672. Parchment and vellum.
673. Pearl, mother of, not sawed, cut, polished, or otherwise manufactured.
674. Peltries and other usual goods and effects of Indians passing or repassing the boundary line of the United States, under such regulations as the Secretary of the Treasury may prescribe: *Provided*, That this exemption shall not apply to goods in bales or other packages unusual among Indians.
675. Personal and household effects not merchandise of citizens of the United States dying in foreign countries.
676. Pewter and britannia metal, old, and fit only to be remanufactured.
677. Philosophical and scientific apparatus, instruments and preparations; statuary, casts of marble, bronze, alabaster, or plaster of Paris; paintings, drawings, and etchings, specially imported in good faith for the use of any society or institution incorporated or established for religious, philosophical, educational, scientific, or literary purposes, or for encouragement of the fine arts, and not intended for sale.
678. Phosphates, crude or native.
679. Plants, trees, shrubs, roots, seed cane, and seeds, all of the foregoing imported by the Department of Agriculture or the United States Botanic Garden.
680. Plaster of Paris and sulphate of lime, unground.
681. Platina, in ingots, bars, sheets, and wire.
682. Platinum, unmanufactured, and vases, retorts, and other apparatus, vessels, and parts thereof composed of platinum, for chemical uses.
683. Plumbago.
684. Polishing stones.
685. Potash, crude, carbonate of, or "black salts." Caustic potash, or hydrate of, not including refined in sticks or rolls. Nitrate of potash, or saltpeter, crude. Sulphate of potash, crude or refined. Chlorate of potash. Muriate of potash.
686. Professional books, implements, instruments, and tools of trade, occupation, or employment, in the actual possession at the time of persons arriving in the United States; but this exemption shall not be construed to include machinery or other articles imported for use in any manufacturing establishment, or for any other person or persons, or for sale.
687. Pulu.
688. Pumice.
689. Quills, prepared, or unprepared, but not made up into complete articles.
690. Quinia, sulphate of, and all alkaloids or salts of cinchona bark.
691. Rags, not otherwise specially provided for in this act.
692. Regalia: and gems, statues, statuary and specimens of sculpture where specially imported in good faith for the use of any society incorporated or established solely for educational, philosophical, literary, or religious purposes, or for the encouragement of fine arts, or for the use or by order of any college, academy, school, seminary of learning, or public library in the United States; but the term "regalia" as herein used shall be held to embrace only such insignia of rank or office or emblems, as may be worn upon the person or borne in the hand during public exercises of the society or institution, and shall not include articles of furniture or fixtures, or of regular wearing apparel, nor personal property of individuals.
693. Rennets, raw or prepared.
694. Saffron and safflower, and extract of, and saffron cake.
695. Sago crude, and sago flour.
696. Salacine.
697. Sauerkraut.
698. Sausage skins.
699. Seeds: anise, canary, caraway, cardamom, coriander, cotton, cummin, fennel, fenugreek, hemp, hoarhound, mustard, rye, Saint John's bread or bene, sugar-beet, mangel-wurzel, sorghum or sugarcane for seed, and all flower and grass seeds; bulbs and bulbous roots, not edible; all the foregoing not specially provided for in this act.
700. Selep, or saloup.
701. Shells of all kinds, not cut, ground, or otherwise manufactured.
702. Shot-gun barrels, forged, rough bored.
703. Shrimps, and other shell fish.
704. Silk, raw, or as reeled from the cocoon, but not doubled, twisted, or advanced in manufacture in any way.
705. Silk cocoons and silk waste.
706. Silk-worm's eggs.

707. Skeletons and other preparations of anatomy.
 708. Snails.
 709. Soda, nitrate of, or cubic nitrate, and chloride of.
 710. Sodium.
 711. Sparterre, suitable for making or ornamenting hats.
 712. Specimens of natural history, botany, and mineralogy, when imported for cabinets or as objects of science, and not for sale.
Spices.—713. Cassia, cassia vera, and cassia buda, unground.
 714. Cinnamon, and chips of, unground.
 715. Cloves, and clove stems unground.
 716. Ginger root, unground and not preserved or candied.
 717. Mace.
 718. Nutmegs.
 719. Pepper, black or white, unground.
 720. Pimento, unground.
 721. Spunk.
 722. Spurs and stils used in the manufacture of earthen, porcelain, and stone ware.
 723. Stone and sand: Burr stone in blocks, rough or manufactured, and not bound up into mill stones; cliff stone, unmanufactured, pumice stone, rotten stone, and sand, crude or manufactured.
 724. Storax, or styrax.
 725. Strontia, oxide of, and protoxide of strontian, and strontianite, or mineral carbonate of strontia.
 726. Sugars, all not above number sixteen Dutch standard in color, all tank bottoms, all sugar drainings and sugar sweepings, sirups of cane juice, melada, concentrated melada, and concrete and concentrated molasses, and molasses.
 727. Sulphur, lac or precipitated, and sulphur or brimstone crude, in bulk, sulphur ore, as pyrites, or sulphure of iron in its natural state, containing in excess of twenty-five per centum of sulphur (except on the copper contained therein) and sulphur not otherwise provided for.
 728. Sulphuric acid which at the temperature of sixty degrees Fahrenheit does not exceed the specific gravity of one and three hundred and eighty thousandths, for use in manufacturing superphosphate of lime or artificial manures of any kind, or for any agricultural purposes.
 729. Sweepings of silver and gold.
 730. Tapioca, cassava or cassady.
 731. Tar and pitch of wood, and pitch of coal tar.
 732. Tea and tea plants.
 733. Teeth, natural *gr* unmanufactured.
 734. Terra alba.
 735. Terra japonica.
 736. Tin ore, cassiterite or black oxide of tin, and tin in bars, blocks, pigs, or grain or granulated, until July the first, eighteen hundred and ninety-three, and thereafter as otherwise provided for in this act.
 737. Tinsel wire, lame, or lahn.
 738. Tobacco stems.
 739. Tonquin, tonqua, or tonka beans.
 740. Tripoli.
 741. Turnerie.
 742. Turpentine, Venice.
 743. Turpentine, spirits of.
 744. Turtles.
 745. Types, old and fit only to be remanufactured.
 746. Uranium, oxide and salts of.
 747. Vaccine virus.
 748. Valonia.
 749. Verdigris, or subacetate of copper.
 750. Wafers, unmediated.
 751. Wax, vegetable or mineral.
 752. Wearing apparel and other personal effects (not merchandise) of persons arriving in the United States, but this exemption shall not be held to include articles not actually in use and necessary and appropriate for the use of such persons for the purposes of their journey and present comfort and convenience, or which are intended for any other person or persons, or for sale: *Provided, however,* That all such

wearing apparel and other personal effects as may have been once imported into the United States and subjected to the payment of duty, and which may have been actually used and taken or exported to foreign countries by the persons returning therewith to the United States, shall, if not advanced in value or improved in condition by any means since their exportation from the United States, be entitled to exemption from duty, upon their identity being established, under such rule and regulations as may be prescribed by the Secretary of the Treasury.

753. Whalebone, unmanufactured.

754. *Wood.*—Logs, and round unmanufactured timber not specially enumerated or provided for in this act.

755. Fire wood, handle bolts, heading bolts, stave bolts and shingle bolts, hop poles, fence posts, railroad ties, ship timber, and ship planking, not specially provided for in this act.

756. Woods, namely, cedar, lignum vite, lance-wood, ebony, box, granadilla, mahogany, rosewood, satinwood, and all forms of cabinet woods, in the log, rough or hewed; bamboo and rattan unmanufactured; briar root or briar wood, and similar wood unmanufactured, or not further manufactured than cut into blocks suitable for the articles into which they are intended to be converted; bamboo, reeds, and sticks of partridge, hair wood, pimento, orange, myrtle, and other woods not otherwise specially provided for in this act, in the rough, or not further manufactured than cut into lengths suitable for sticks for umbrellas, parasols, sunshades, whips, or walking canes; and India malacca joints, not further manufactured than cut into suitable lengths for the manufactures into which they are intended to be converted.

757. Works of art, the production of American artists residing temporarily abroad, or other works of art, including pictorial paintings on glass, imported expressly for presentation to a national institution, or to any State or municipal corporation, or incorporated religious society, college, or other public institution, except stained or painted window glass or stained or painted glass windows; but such exemption shall be subject to such regulations as the Secretary of the Treasury may prescribe.

758. Works of art, drawings, engravings, photographic pictures, and philosophical and scientific apparatus brought by professional artists, lecturers, or scientists arriving from abroad for use by them temporarily for exhibition and in illustration, promotion, and encouragement of art, science, or industry in the United States, and not for sale, and photographic pictures, paintings, and statuary, imported for exhibition by any association established in good faith and duly authorized under the laws of the United States, or of any State, expressly and solely for the promotion and encouragement of science, art, or industry, and not intended for sale, shall be admitted free of duty, under such regulations as the Secretary of the Treasury shall prescribe; but bonds shall be given for the payment to the United States of such duties as may be imposed by law upon any and all of such articles as shall not be exported within six months after such importation: *Provided,* That the Secretary of the Treasury may, in his discretion, extend such period for a further term of six months in cases where applications therefor shall be made.

759. Works of art, collections in illustration of the progress of the arts, science, or manufactures, photographs, works in terra-cotta, parian, pottery, or porcelain, and artistic copies of antiquities in metal or other material hereinafter imported in good faith for permanent exhibition at a fixed place by any society or institution established for the encouragement of the arts or of science, and all like articles imported in good faith by any society or association for the purpose of erecting a public monument, and not intended for sale, nor for any other purpose than herein expressed; but bonds shall be given under such rules and regulations as the Secretary of the Treasury may

prescribe, for the payment of lawful duties which may accrue should any of the articles aforesaid be sold, transferred, or used contrary to this provision, and such articles shall be subject, at any time, to examination and inspection by the proper officers of the customs: *Provided*, That the privileges of this and the preceding section shall not be allowed to associations or corporations engaged in or connected with business of a private or commercial character.

760. Yams.
761. Zaffer.

Sec. 3. That with a view to secure reciprocal trade with countries producing the following articles, and for this purpose, on and after the first day of January, eighteen hundred and ninety-two, whenever, and so often as the President shall be satisfied that the Government of any country producing and exporting sugars, molasses, coffee, tea, and hides, raw and un-cured, or any of such articles, imposes duties or other exactions upon the agricultural or other products of the United States, which in view of the free introduction of such sugar, molasses, coffee, tea, and hides into the United States he may deem to be reciprocally unequal and unreasonable, he shall have the power and it shall be his duty to suspend, by proclamation to that effect, the provisions of this act relating to the free introduction of such sugar, molasses, coffee, tea, and hides, the production of such country, for such time as he shall deem just, and in such case and during such suspension duties shall be levied, collected, and paid upon sugar, molasses, coffee, tea, and hides, the product of or exported from such designated country as follows, namely:

All sugars not above number thirteen Dutch standard in color shall pay duty on their polariscopic tests as follows, namely:

All sugars not above number thirteen Dutch standard in color, all tank bottoms, sirups of cane juice or of beet juice, melada, concentrated melada, concrete and concentrated molasses, testing by the polariscopic not above seventy-five degrees, seventh tenths of one cent per pound; and for every additional degree or fraction of a degree shown by the polariscopic test, two hundredths of one cent per pound additional.

All sugars above number thirteen Dutch standard in color shall be classified by the Dutch standard of color, and pay duty as follows, namely: All sugar above number thirteen and not above number sixteen Dutch standard of color, one and three eighths cent per pound.

All sugars above number sixteen and not above number twenty Dutch standard of color, one and five eighths cent per pound.

All sugars above number twenty Dutch standard of color, two cents per pound.

Molasses testing above fifty-six degrees, four cents per gallon.

Sugar drainings and sugar sweepings shall be subject to duty either as molasses or sugar, as the case may be, according to polariscopic test.

On coffee, three cents per pound.

On tea, ten cents per pound.

Hides, raw or un-cured, whether dry, salted, or pickled, Angora goat skins, raw, without the wool, unmanufactured, asses' skins, raw or unmanufactured, and skins, except sheep skins, with the wool on, one and one half cent per pound.

Sec. 4. That there shall be levied, collected, and paid on the importation of all raw or unmanufactured articles, not enumerated or provided for in this act, a duty of ten per centum ad valorem; and on all articles manufactured, in whole or in part, not provided for in this act, a duty of twenty per centum ad valorem.

Sec. 5. That each and every imported article, not enumerated in this act, which is similar, either in material, quality, texture, or the use to which it may be applied, to any article enumerated in this act as chargeable with duty shall pay the same rate of duty which is levied on the enumerated article which it most resembles in any of the particulars before men-

tioned: and if any non-enumerated article equally resembles two or more enumerated articles on which different rates of duty are chargeable there shall be levied on such non-enumerated article the same rate of duty as is chargeable on the article which it resembles paying the highest rate of duty; and on articles not enumerated, manufactured of two or more materials, the duty shall be assessed at the highest rate at which the same would be chargeable if composed wholly of the component material thereof of chief value; and the words "component material of chief value," wherever used in this act, shall be held to mean that component material which shall exceed in value any other single component material of the article; and the value of each component material shall be determined by the ascertained value of such material in its condition as found in the article. If two or more rates of duty shall be applicable to any imported article it shall pay duty at the highest of such rates.

Sec. 6. That on and after the first day of March, eighteen hundred and ninety-one, all articles of foreign manufacture, such as are usually or ordinarily marked, stamped, branded, or labeled, and all packages containing such or other imported articles, shall, respectively, be plainly marked, stamped, branded, or labeled in legible English words, so as to indicate the country of their origin; and unless so marked, stamped, branded, or labeled, they shall not be admitted to entry.

Sec. 7. That on and after March first, eighteen hundred and ninety-one, no article of imported merchandise which shall copy or simulate the name or trade-mark of any domestic manufacturer or manufacturer, shall be admitted to entry at any custom house of the United States. And in order to aid the officers of the customs in enforcing this prohibition, any domestic manufacturer who has adopted trade-marks may require his name and residence and a description of his trade-marks to be recorded in books which shall be kept for that purpose in the Department of the Treasury under such regulations as the Secretary of the Treasury shall prescribe, and may furnish to the department fac-similes of such trade-marks; and thereupon the Secretary of the Treasury shall cause one or more copies of the same to be transmitted to each collector or other proper officer of the customs.

Sec. 8. That all lumber, timber, hemp, manilla, wire rope, and iron and steel rods, bars, spikes, nails, plates, tees, angles, beams, and bolts and copper and composition metal which may be necessary for the construction and equipment of vessels built in the United States for foreign account and ownership or for the purpose of being employed in the foreign trade, including the trade between the Atlantic and Pacific ports of the United States, after the passage of this act, may be imported in bond, under such regulations as the Secretary of the Treasury may prescribe; and upon proof that such materials have been used for such purpose no duties shall be paid thereon. But vessels receiving the benefit of this section shall not be allowed to engage in the coastwise trade of the United States more than two months in any one year, except upon the payment to the United States of the duties on which a rebate is herein allowed: *Provided*, That vessels built in the United States for foreign account and ownership shall not be allowed to engage in the coastwise trade of the United States.

Sec. 9. That all articles of foreign production needed for the repair of American vessels engaged in foreign trade, including the trade between the Atlantic and Pacific ports of the United States, may be withdrawn from bonded warehouses free of duty, under such regulations as the Secretary of the Treasury may prescribe.

Sec. 10. That all medicines, preparations, compositions, perfumery, cosmetics, cordials, and other liquors manufactured wholly or in part of domestic spirits, intended for exportation, as provided by law, in order to be manufactured and sold or removed,

without being charged with duty and without having a stamp affixed thereto, shall, under such regulations as the Secretary of the Treasury may prescribe, be made and manufactured in warehouses similarly constructed to those known and designated in Treasury regulations as bonded warehouses, class two: *Provided*, That such manufacturer shall first give satisfactory bonds to the collector of internal revenue for the faithful observance of all the provisions of law and the regulations as aforesaid, in amount not less than half of that required by the regulations of the Secretary of the Treasury from persons allowed bonded warehouses. Such goods, when manufactured in such warehouses, may be removed for exportation under the direction of the proper officer having charge thereof, who shall be designated by the Secretary of the Treasury without being charged with duty, and without having a stamp affixed thereto. Any manufacturer of the articles aforesaid, or any of them, having such bonded warehouses as aforesaid, shall be at liberty, under such regulations as the Secretary of the Treasury may prescribe, to convey therein any materials to be used in such manufacture which are allowed by the provisions of law to be exported free from tax or duty, as well as the necessary materials, implements, packages, vessels, brands, and labels for the preparation, putting up, and export of the said manufactured articles; and every article so used shall be exempt from the payment of stamp and excise duty by such manufacturer. Articles and materials so to be used may be transferred from any bonded warehouse in which the same may be, under such regulation as the Secretary of the Treasury may prescribe, into any bonded warehouse in which such manufacture may be conducted, and may be used in such manufacture, and when so used shall be exempt from stamp and excise duty; and the receipt of the officer in charge as aforesaid shall be received as a voucher for the manufacture of such articles. Any materials imported into the United States may, under such rules as the Secretary of the Treasury may prescribe, and under the direction of the proper officer, be removed in original packages from on shipboard, or from the bonded warehouse in which the same may be, into the bonded warehouse in which such manufacture may be carried on, for the purpose of being used in such manufacture, without payment of duties thereon, and may there be used in such manufacture. No article so removed, nor any article manufactured in said bonded warehouse, shall be taken therefrom except for exportation, under the direction of the proper officer having charge thereof as aforesaid, whose certificate, describing the articles by their mark or otherwise, the quantity, the date of importation, and name of vessel, with such additional particulars as may from time to time be required, shall be received by the collector of customs in cancellation of the bond or return of the amount of foreign import duties. All labor performed and services rendered under these regulations shall be under the supervision of an officer of the customs, and at the expense of the manufacturer.

SEC. 11. All persons are prohibited from importing into the United States from any foreign country any obscene book, pamphlet, paper, writing, advertisement, circular, print, picture, drawing, or other representation, figure, or image on or of paper or other material, or any cast, instrument, or other article of an immoral nature, or any drug or medicine, or any article whatever, for the prevention of conception, or for causing unlawful abortion. No such articles, whether imported separately or contained in packages with other goods entitled to entry, shall be admitted to entry; and all such articles shall be proceeded against, seized, and forfeited by due course of law. All such prohibited articles and the package in which they are contained in the course of importation shall be detained by the officer of customs, and proceedings taken against the same as prescribed in the following section, unless it appears to the satisfaction of the collector of customs that the obscene articles

contained in the package were inclosed therein without the knowledge or consent of the importer, owner, agent, or consignee: *Provided*, That the drugs hereinbefore mentioned, when imported in bulk and not put up for any of the purposes hereinbefore specified, are excepted from the operation of this section.

SEC. 12. That whoever, being an officer, agent, or employé of the Government of the United States, shall knowingly aid or abet any person engaged in any violation of any of the provisions of law prohibiting importing, advertising, dealing in, exhibiting, or sending or receiving by mail obscene or indecent publications or representations, or means for preventing conception or procuring abortion, or other articles of indecent or immoral use or tendency, shall be deemed guilty of a misdemeanor, and shall for every offense be punishable by a fine of not more than five thousand dollars, or by imprisonment at hard labor for not more than ten years, or both.

SEC. 13. That any judge of any district or circuit court of the United States, within the proper district, before whom complaint in writing of any violation of the two preceding sections is made, to the satisfaction of such judge, and founded on knowledge or belief, and if upon belief, setting forth the grounds of such belief, and supported by oath or affirmation of the complainant may issue, conformably to the Constitution, a warrant directed to the marshal or any deputy marshal, in the proper district, directing him to search for, seize, and take possession of any such article or thing mentioned in the two preceding sections, and to make due and immediate return thereof to the end that the same may be condemned and destroyed by proceedings, which shall be conducted in the same manner as other proceedings in the case of municipal seizure, and with the same right of appeal or writ of error.

SEC. 14. That machinery for repair may be imported into the United States without payment of duty, under bond, to be given in double the appraised value thereof, to be withdrawn and exported after said machinery shall have been repaired; and the Secretary of the Treasury is authorized and directed to prescribe such rules and regulations as may be necessary to protect the revenue against fraud, and secure the identity and character of all such importations when again withdrawn and exported, restricting and limiting the export and withdrawal to the same port of entry where imported, and also limiting all bonds to a period of time of not more than six months from the date of the importation.

SEC. 15. That the produce of the forests of the State of Maine upon the Saint John River and its tributaries, owned by American citizens, and sawed or hewed in the Province of New Brunswick by American citizens, the same being unmanufactured in whole or in part, which is now admitted into the ports of the United States free of duty, shall continue to be so admitted under such regulations as the Secretary of the Treasury shall, from time to time prescribe.

SEC. 16. That the produce of the forests of the State of Maine upon the Saint Croix river and its tributaries owned by American citizens, and sawed in the Province of New Brunswick by American citizens, the same being unmanufactured in whole or in part, shall be admitted into the ports of the United States free of duty, under such regulations as the Secretary of the Treasury shall, from time to time, prescribe.

SEC. 17. That a discriminating duty of ten per centum ad valorem, in addition to the duties imposed by law, shall be levied, collected, and paid on all goods, wares, or merchandise which shall be imported in vessels not of the United States; but this discriminating duty shall not apply to goods, wares, and merchandise which shall be imported in vessels not of the United States, entitled, by treaty or any act of Congress, to be entered in the ports of the United States on payment of the same duties as shall then be paid on goods, wares, and merchandise imported in vessels of the United States.

SEC. 18. That no goods, wares, or merchandise, unless in cases provided for by treaty, shall be imported into the United States from any foreign port or place, except in vessels of the United States, or in such foreign vessels as truly and wholly belong to the citizens or subjects of that country of which the goods are the growth, production, or manufacture, or from which such goods, wares, or merchandise can only be, or most usually are, first shipped for transportation. All goods, wares, or merchandise imported contrary to this section, and the vessel wherein the same shall be imported, together with her cargo, tackle, apparel, and furniture, shall be forfeited to the United States; and such goods, wares, or merchandise, ship, or vessel, and cargo shall be liable to be seized, prosecuted, and condemned, in like manner, and under the same regulations, restrictions, and provisions as have been heretofore established for the recovery, collection, distribution, and remission of forfeitures to the United States by the several revenue laws.

SEC. 19. That the preceding section shall not apply to vessels or goods, wares, or merchandise imported in vessels of a foreign nation which does not maintain a similar regulation against vessels of the United States.

SEC. 20. That the importation of neat cattle and the hides of neat cattle from any foreign country into the United States is prohibited: *Provided*, That the operation of this section shall be suspended as to any foreign country or countries, or any parts of such country or countries, whenever the Secretary of the Treasury shall officially determine, and give public notice thereof that such importation will not tend to the introduction or spread of contagious or infectious diseases among the cattle of the United States; and the Secretary of the Treasury is hereby authorized and empowered, and it shall be his duty, to make all necessary orders and regulations to carry this section into effect, or to suspend the same as therein provided, and to send copies thereof to the proper officers in the United States, and to such officers or agents of the United States in foreign countries as he shall judge necessary.

SEC. 21. That any person convicted of a willful violation of any of the provisions of the preceding section shall be fined not exceeding five hundred dollars, or imprisoned not exceeding one year, or both, in the discretion of the Court.

SEC. 22. That upon the reimportation of articles once exported of the growth, product, or manufacture of the United States, upon which no internal tax has been assessed or paid, or upon which such tax has been paid and refunded by allowance or drawback, there shall be levied, collected, and paid a duty equal to the tax imposed by the internal-revenue laws upon such articles, except articles manufactured in bonded warehouses and exported pursuant to law, which shall be subject to the same rate of duty as if originally imported.

SEC. 23. That whenever any vessel laden with merchandise in whole or in part subject to duty has been sunk in any river, harbor, bay, or waters subject to the jurisdiction of the United States, and within its limits, for the period of two years, and is abandoned by the owner thereof, any person who may raise such vessel shall be permitted to bring any merchandise recovered therefrom into the port nearest to the place where such vessel was so raised, free from the payment of any duty thereupon, and without being obliged to enter the same at the custom house; but under such regulations as the Secretary of the Treasury may prescribe.

SEC. 24. That the works of manufactures engaged in smelting or refining metals in the United States may be designated as bonded warehouses under such regulations as the Secretary of the Treasury may prescribe: *Provided*, That such manufacturers shall first give satisfactory bonds to the Secretary of the Treasury. Metals in any crude form requiring smelting or refining to make them readily available in the arts, imported into the United States to be smelted or re-

fined and intended to be exported in a refined but unmanufactured state, shall, under such rules as the Secretary of the Treasury may prescribe and under the direction of the proper officer, be removed in original packages or in bulk from the vessel or other vehicle on which it has been imported, or from the bonded warehouse in which the same may be into the bonded warehouse in which such smelting and refining may be carried on, for the purpose of being smelted and refined without payment of duties thereon, and may there be smelted and refined, together with other metals of home or foreign production: *Provided*, That each day a quantity of refined metal equal to the amount of imported metal refined that day shall be set aside, and such metal so set aside shall not be taken from said works except for exportation, under the direction of the proper officer having charge thereof as aforesaid, whose certificate, describing the articles by their marks or otherwise, the quantity, the date of importation, and the name of vessel or other vehicle by which it was imported, with such additional particulars as may from time to time be required, shall be received by the collector of customs as sufficient evidence of the exportation of the metal, or it may be removed, under such regulations as the Secretary of the Treasury may prescribe, to any other bonded warehouse, or upon entry for, and payment of duties, for domestic consumption. All labor performed and services rendered under these regulations shall be under the supervision of an officer of the customs, to be appointed by the Secretary of the Treasury, and at the expense of the manufacturer.

SEC. 25. That where imported materials on which duties have been paid, are used in the manufacture of articles manufactured or produced in the United States, there shall be allowed on the exportation of such articles a drawback equal in amount to the duties paid on the materials used, less one per centum of such duties: *Provided*, That when the articles exported are made in part from domestic materials, the imported materials, or the parts of the articles made from such materials shall so appear in the completed articles that the quantity or measure thereof may be ascertained. *And provided further*, That the drawback on any article allowed under existing law shall be continued at the rate herein provided. That the imported materials used in the manufacture or production of articles entitled to drawback of customs duties when exported shall in all cases where drawback of duties paid on such materials is claimed, be identified, the quantity of such materials used and the amount of duties paid thereon shall be ascertained, the facts of the manufacture or production of such articles in the United States and their exportation therefrom shall be determined, and the drawback due thereon shall be paid to the manufacturer, producer, or exporter, to the agent of either or to the person to whom such manufacturer, producer, exporter or agent shall in writing order such drawback paid under such regulations as the Secretary of the Treasury shall prescribe.

Internal Revenue.

SEC. 26. That on and after the first day of May, eighteen hundred and ninety-one, all special taxes imposed by the laws now in force upon dealers in leaf tobacco, retail dealers in leaf tobacco, dealers in tobacco, manufacturers of tobacco, manufacturers of cigars, and peddlers of tobacco are hereby repealed. Every such dealer in leaf tobacco, retail dealer in leaf tobacco, manufacturer, and peddler, shall, however, register with the collector of the district his name, or style, place of residence, trade, or business, and the place where such trade or business is to be carried on, the same as though the tax had not been repealed, and a failure to register as herein required shall subject such person to a penalty of fifty dollars.

SEC. 27. That all provisions of the statutes imposing restrictions of any kind whatsoever upon farmers and growers of tobacco in regard to the sale of their

leaf tobacco, and the keeping of books, and the registration and report of their sales of leaf tobacco, or imposing any tax on account of such sales, are hereby repealed: *Provided, however*, That it shall be the duty of every farmer or planter producing and selling leaf tobacco, on demand of any internal-revenue officer, or other authorized agent of the Treasury Department, to furnish said officer or agent a true and complete statement verified by oath, of all his sales of leaf tobacco, the number of hogsheads, cases, or pounds, with the name and residence, in each instance, of the person to whom sold, and the place to which it is shipped. And every farmer or planter who willfully refuses to furnish such information, or who knowingly makes false statements as to any of the facts aforesaid, shall be guilty of a misdemeanor, and shall be liable to a penalty not exceeding five hundred dollars.

SEC. 28. That section thirty-three hundred and eighty-one of the Revised Statutes be, and the same is hereby, amended by striking out all after the said number and substituting therefor the following:

"Every peddler of tobacco, before commencing, or, if he has already commenced, before continuing to peddle tobacco, shall furnish to the collector of his district a statement accurately setting forth the place of his residence, and, if in a city, the street and number of the street where he resides, the State or States through which he proposes to travel; also whether he proposes to sell his own manufactures or the manufactures of others, and, if he sells for other parties, the person for whom he sells. He shall also give a bond in the sum of five hundred dollars, to be approved by the collector of the district, conditioned that he shall not engage in any attempt, by himself, or by collusion with others, to defraud the Government of any tax on tobacco, snuff, or cigars; that he shall neither sell nor offer for sale any tobacco, snuff, or cigars, except in original and full packages, as the law requires the same to be put up and prepared by the manufacturer for sale, or for removal for sale or consumption, and except such packages of tobacco, snuff, and cigars, as bear the manufacturer's label, or caution notice, and his legal marks and brands, and genuine internal-revenue stamps which have never before been used."

SEC. 29. That section thirty-three hundred and eighty-three, Revised Statutes, as amended by section fifteen of the act of March first, eighteen hundred and seventy-nine, be, and the same is hereby, amended by striking out all of said section and by substituting in lieu thereof the following:

"Every peddler of tobacco shall obtain a certificate from the collector of his collection district, who is hereby authorized and directed to issue the same, giving the name of the peddler, his residence, and the fact of his having filed the required bond; and shall on demand of any officer of internal revenue produce and exhibit his certificate. And whenever any peddler refuses to exhibit his certificate, as aforesaid, on demand of any officer of internal revenue, said officer may seize the horse or mule, wagon, and contents, or pack, bundle, or basket, of any person so refusing; and the collector of the district in which the seizure occurs may, on ten days' notice, published in any newspaper in the district, or served personally on the peddler, or at his dwelling house, require such peddler to show cause, if any he has, why the horses or mules, wagons, and contents, pack, bundle, or basket so seized shall not be forfeited. In case no sufficient cause is shown, proceedings for the forfeiture of the property seized shall be taken under the general provisions of the internal-revenue laws relating to forfeitures. Any internal-revenue agent may demand production of and inspect the collector's certificate for peddlers, and refusal or failure to produce the same, when so demanded, shall subject the party guilty thereof to a fine of not more than five hundred dollars and to imprisonment for not more than twelve months."

SEC. 30. That on and after the first day of January, eighteen hundred and ninety-one, the internal taxes

on smoking and manufactured tobacco shall be six cents per pound, and on snuff six cents per pound.

SEC. 31. That section thirty-three hundred and sixty-three of the Revised Statutes, be, and hereby is, amended by striking out all after said number and substituting the following:

"No manufactured tobacco shall be sold or offered for sale unless put up in packages and stamped as prescribed in this chapter, except at retail by retail dealers from packages authorized by section thirty-three hundred and sixty-two of the Revised Statutes; and every person who sells or offers for sale any snuff or any kind of manufactured tobacco not so put up in packages and stamped shall be fined not less than five hundred dollars nor more than five thousand dollars, and imprisoned not less than six months nor more than two years."

SEC. 32. That section thirty-three hundred and ninety-two of the Revised Statutes, as amended by section sixteen of the act of March first, eighteen hundred and seventy-nine, be, and the same hereby is amended to read as follows:

"All cigars shall be packed in boxes not before used for that purpose, containing respectively twenty-five, fifty, one hundred, two hundred, two hundred and fifty, or five hundred cigars each: *Provided, however*, That manufacturers of cigars shall be permitted to pack in boxes not before used for that purpose cigars not to exceed thirteen nor less than twelve in number, to be used as sample boxes; and every person who sells, or offers for sale, or delivers, or offers to deliver, any cigars in any other form than in new boxes as above described, or who packs in any box any cigars in excess of or less than the number provided by law to be put in each box respectively, or who falsely brands any box, or affixes a stamp on any box denoting a less amount of tax than that required by law, shall be fined for each offense not more than one thousand dollars, and be imprisoned not more than two years: *Provided*, That nothing in this section shall be construed as preventing the sale of cigars at retail by retail dealers who have paid the special tax as such from boxes packed, stamped, and branded in the manner prescribed by law: *And provided further*, That every manufacturer of cigarettes shall put up all the cigarettes that he manufactures or has manufactured for him, and sells or removes for consumption or use, in packages or parcels containing ten, twenty, fifty, or one hundred cigarettes each, and shall securely affix to each of said packages or parcels a suitable stamp denoting the tax thereon, and shall properly cancel the same prior to such sale or removal for consumption or use, under such regulations as the Commissioner of Internal Revenue shall prescribe; and all cigarettes imported from a foreign country shall be packed, stamped, and the stamps canceled in like manner, in addition to the import stamp indicating inspection of the custom house before they are withdrawn therefrom."

SEC. 33. That section thirty-three hundred and fifty-seven, of the Revised Statutes, as amended by section two of the act of June ninth, eighteen hundred and eighty, be, and the same is amended, by striking out all after the number and inserting in lieu thereof the following:

"Every collector shall keep a record, in a book or books provided for that purpose, to be open to the inspection of only the proper officers of internal revenue, including deputy collectors and internal-revenue agents, of the name and residence of every person engaged in the manufacture of tobacco or snuff in his district, the place where such manufacture is carried on, and the number of the manufactory; and he shall enter in said record, under the name of each manufacturer, a copy of every inventory required by law to be made by such manufacturer, and an abstract of his monthly returns; and he shall cause the several manufactories of tobacco or snuff in his district to be numbered consecutively, which numbers shall not be thereafter changed, except for reasons satisfactory to himself and approved by the Commissioner of Internal Revenue."

SEC. 34. That section thirty-three hundred and eighty-nine of the Revised Statutes, as amended by section sixteen of the act of March first, eighteen hundred and seventy-nine, be, and the same is hereby amended, so as to read as follows:

"Every collector shall keep a record, in a book provided for that purpose, to be open to the inspection of only the proper officers of internal revenue, including deputy collectors and internal-revenue agents, of name and residence of every person engaged in the manufacture of cigars in his district, the place where such manufacture is carried on, and the number of the manufactory; and he shall enter in said record, under the name of each manufacturer an abstract of his inventory and monthly returns; and he shall cause the several manufacturers of cigars in the district to be numbered consecutively, which number shall not thereafter be changed."

SEC. 35. That section three thousand three hundred and eighty-seven of the Revised Statutes, as amended by section sixteen of the act of March first, one thousand eight hundred and seventy-nine, be, and the same is hereby amended, by striking from the said section the following words, namely: "five hundred dollars, with an additional one hundred dollars for each person proposed to be employed by him in making cigars," and inserting in lieu of the words so stricken out the words: "one hundred dollars."

SEC. 36. That an internal-revenue tax of ten dollars per pound shall be levied and collected upon all opium manufactured in the United States for smoking purposes; and no person shall engage in such manufacture who is not a citizen of the United States and who has not given the bond required by the Commissioner of Internal Revenue.

SEC. 37. That every manufacturer of such opium shall file with the collector of internal revenue of the district in which his manufactory is located such notices, inventories, and bonds, shall keep such books and render such returns of material and products, shall put up such signs and affix such number to his factory, and conduct his business under such surveillance of officers and agents as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, may, by regulation, require. But the bond required of such manufacturer shall be with sureties satisfactory to the collector of internal revenue, and in a penal sum of not less than five thousand dollars; and the sum of said bond may be increased from time to time and additional sureties required at the discretion of the collector or under instructions of the Commissioner of Internal Revenue.

SEC. 38. That all prepared smoking opium imported into the United States, shall, before removal from the custom house, be duly stamped in such manner as to denote that the duty thereon has been paid; and that all opium manufactured in the United States for smoking purposes, before being removed from the place of manufacture, whether for consumption or storage, shall be duly stamped in such permanent manner as to denote the payment of the internal-revenue tax thereon.

SEC. 39. That the provisions of existing laws governing the engraving, issue, sale, accountability, effacement, cancellation, and destruction of stamps, relating to tobacco and snuff, as far as applicable are hereby made to apply to stamps provided for by the preceding section.

SEC. 40. That a penalty of not more than one thousand dollars, or imprisonment not more than one year, or both, in the discretion of the court shall be imposed for each and every violation of the preceding sections of this act relating to opium by any person or persons and all prepared smoking opium wherever found within the United States without stamps required by this act shall be forfeited.

SEC. 41. That wholesale dealers in oleomargarine shall keep such books and render such returns in relation thereto as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, may, by regulation, require, and such books shall

be open at all times to the inspection of any internal-revenue officer or agent.

SEC. 42. That any producer of pure sweet wines, who is also a distiller, authorized to separate from fermented grape juice, under internal-revenue laws, wine spirits, may use, free of tax, in the preparation of such sweet wines, under such regulations and after the filing of such notices and bonds, together with the keeping of such records and the rendition of such reports as to materials and products, as the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury may prescribe, so much of such wine spirits so separated by him as may be necessary to fortify the wine for the preservation of the saccharine matter contained therein: *Provided*, That the wine spirits so used free of tax shall not be in excess of the amount required to introduce into such sweet wines in alcoholic strength equal to fourteen per centum of the volume of such wines after such use: *Provided further*, That such wine containing after such fortification more than twenty-four per centum of alcohol, as defined by section thirty-two hundred and forty-nine of the Revised Statutes, shall be forfeited to the United States: *Provided further*, That such use of wine spirits free from tax shall be confined to the months of August, September, October, November, December, January, February, March, and April of each year. The Commissioner of Internal Revenue, in determining the liability of any distiller of fermented grape juice to assessment under section thirty-three hundred and nine of the Revised Statutes, is authorized to allow such distiller credit in his computation for the wine spirits used by him in preparing sweet wine under the provisions of this section.

SEC. 43. That the wine spirits mentioned in section fifty-three of this act is the product resulting from the distillation of fermented grape juice, and shall be held to include the product commonly known as grape brandy; and the pure sweet wine which may be fortified free of tax, as provided in said section, is fermented grape juice only, and shall contain no other substance of any kind whatever introduced before, at the time of, or after fermentation, and such sweet wine shall contain not less than four per centum of saccharine matter, which saccharine strength may be determined by testing, with Balling's saccharometer or must-scale, such sweet wine, after the evaporation of the spirit contained therein, and restoring the sample tested to original volume by addition of water.

SEC. 44. That any person who shall use wine spirits, as defined by section fifty-four of this act, or other spirits on which the internal-revenue tax has not been paid, otherwise than within the limitations set forth in section fifty-five of this act, and in accordance with the regulations made pursuant to this act, shall be liable to a penalty of double the amount of the tax on the wine spirits or other spirits so unlawfully used. Whenever it is impracticable in any case to ascertain the quantity of wine spirits or other spirits that have been used in violation of this act in mixtures with any wines, all alcohol contained in such unlawful mixtures of wine with wine spirits or other spirits in excess of ten per centum shall be held to be unlawfully used: *Provided, however*, That if water has been added to such unlawful mixtures, either before, at the time of, or after such unlawful use of wine spirits, or other spirits, all the alcohol contained therein shall be considered to have been unlawfully used. In reference to alcoholic strength of wines and mixtures of wines with spirits in this act the measurement is intended to be according to volume and not according to weight.

SEC. 45. That under such regulations and official supervision, and upon the execution of such entries and the giving of such bonds, bills of lading, and other security as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe, any producer of pure sweet wines as defined by this act may withdraw wine spirits from any special bonded warehouse free of tax, in original packages, in any quantity not less than eighty wine

gallons, and may use so much of the same as may be required by him, under such regulations, and after the filing of such notices and bonds, and the keeping of such records, and the rendition of such reports as to materials and products and the disposition of the same as the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury shall prescribe, in fortifying the pure sweet wines made by him, and for no other purpose, in accordance with the limitations and provisions as to uses, amount to be used, and period for using the same set forth in section fifty-three of this act; and the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, is authorized, whenever he shall deem it to be necessary for the prevention of violations of this law, to prescribe that wine spirits withdrawn under this section shall not be used to fortify wines except at a certain distance prescribed by him from any distillery, rectifying house, winery, or other establishment used for producing or storing distilled spirits, or for making or storing wines other than wines which are so fortified, and that in the building in which such fortification of wines is practiced no wines or spirits other than those permitted by his regulation shall be stored. The use of wine spirits free of tax for the fortification of sweet wines under this act shall be begun and completed at the vineyard of the wine grower where the grapes are crushed and the grape juice is expressed and fermented, such use to be under the immediate supervision of an officer of internal revenue, who shall make returns describing the kinds and quantities of wine so fortified, and shall affix such stamps and seals to the packages containing such wines as may be prescribed by the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury; and the Commissioner of Internal Revenue shall provide by regulations the time within which wines so fortified with the wine spirits so withdrawn may be subject to inspection, and for final accounting for the use of such wine spirits and for rewarehousing or for payment of the tax on any portion of such wine spirits which remain not used in fortifying pure sweet wines.

Sec. 46. That wine spirits may be withdrawn from special bonded warehouses at the instance of any person desiring to use the same to fortify any wines, in accordance with commercial demands of foreign markets, when such wines are intended for exportation, without the payment of tax on the amount of wine spirits used in such fortification, under such regulations, and after making such entries, and executing and filing with the collector of the district from which the removal is to be made such bonds and bills of lading, and giving such other additional security to prevent the use of such wine spirits free of tax otherwise than in the fortification of wine intended for exportation, and for the due exportation of the wine so fortified, as may be prescribed by the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury; and all of the provisions of law governing the exportation of distilled spirits free of tax, so far as applicable, shall apply to the withdrawal and use of wine spirits and the exportation of the same in accordance with this section; and the Commissioner of Internal Revenue is authorized, subject to the approval by the Secretary of the Treasury, to prescribe that wine spirits intended for the fortification of wines under this section shall not be introduced into such wines except under the immediate supervision of an officer of internal revenue, who shall make returns describing the kinds and quantities of wine so fortified, and shall affix such stamps and seals to the packages containing such wines as may be prescribed by the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury. Whenever such wine spirits are withdrawn as provided herein for the fortification of wines intended for exportation by sea they shall be introduced into such wines only after removal from storage and arrival alongside of the vessel which is to transport the same; and whenever transportation of

such wines is to be effected by land carriage the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, shall prescribe such regulations as to sealing packages and vehicles containing the same, and as to the supervision of transportation from the point of departure, which point shall be determined as the place where such wine spirits may be introduced into such wines to the point of destination as may be necessary to insure the due exportation of such fortified wines.

Sec. 47. That all provisions of law relating to the reimportation of any goods of domestic growth or manufacture which were originally liable to an internal-revenue tax shall be, as far as applicable, enforced against any domestic wines sought to be reimported; and duty shall be levied and collected upon the same when reimported, as an original importation.

Sec. 48. That any person using wine spirits or other spirits which have not been tax-paid in fortifying wine otherwise than as provided for in this act, shall be guilty of a misdemeanor, and shall, on conviction thereof, be punished for each offense by a fine of not more than two thousand dollars, and for every offense other than the first also by imprisonment for not more than one year.

Sec. 49. That wine spirits used in fortifying wines may be recovered from such wine only on the premises of a duly authorized grape-brandy distiller; and for the purpose of such recovery wine so fortified may be received as material on the premises of such a distiller, on a special permit of the collector of internal revenue in whose district the distillery is located; and the distiller will be held to pay the tax on a product from such wines as will include both the alcoholic strength therein produced by the fermentation of the grape juice and that obtained from the added distilled spirits.

Sec. 50. That on and after the day when this act shall go into effect, all goods, wares, and merchandise previously imported, for which no entry has been made, and all goods, wares, and merchandise previously entered without payment of duty and under bond for warehousing, transportation, or any other purpose, for which no permit of delivery to the importer or his agent has been issued, shall be subjected to no other duty upon the entry or the withdrawal thereof than if the same were imported respectively after that day: *Provided*, That any imported merchandise deposited in bond in any public or private bonded warehouse having been so deposited prior to the first day of October, eighteen hundred and ninety, may be withdrawn for consumption at any time prior to February first, eighteen hundred and ninety-one, upon the payment of duties at the rates in force prior to the passage of this act: *Provided, further*, That when duties are based upon the weight of merchandise deposited in any public or private bonded warehouse said duties shall be levied and collected upon the weight of such merchandise at the time of its withdrawal.

Sec. 51. That all goods, wares, articles, and merchandise manufactured wholly or in part in any foreign country by convict labor, shall not be entitled to entry at any of the ports of the United States, and the importation thereof is hereby prohibited, and the Secretary of the Treasury is authorized to prescribe such regulations as may be necessary for the enforcement of this provision.

Sec. 52. That the value of foreign coin as expressed in the money of account of the United States shall be that of the pure metal of such coin of standard value; and the values of the standard coins in circulation of the various nations of the world shall be estimated quarterly by the Director of the Mint, and be proclaimed by the Secretary of the Treasury immediately after the passage of this act and thereafter quarterly on the first day of January, April, July, and October in each year.

Sec. 53. That all special taxes shall become due on the first day of July, eighteen hundred and ninety-one, and on the first day of July in each year there-

after, or on commencing any trade or business on which such tax is imposed. In the former case the tax shall be reckoned for one year; and in the latter case it shall be reckoned proportionately, from the first day of the month in which the liability to a special tax commenced to the first day of July following. Special tax stamps may be issued for the months of May and June, eighteen hundred and ninety-one, upon payment of the amount of tax reckoned proportionately under the laws now in force, and such stamps which have been or may be issued for the period ending April thirtieth, eighteen hundred and ninety, may, upon payment of one sixth of the amount required to be paid for such stamps for one year, be extended until July first, eighteen hundred and ninety-one, under such regulations as may be prescribed by the Commissioner of Internal Revenue. And it shall be the duty of special tax payers to render their returns to the deputy collector at such times within the calendar month in which the special tax liability commenced as shall enable him to receive such returns, duly signed and verified, not later than the last day of the month, except in cases of sickness or absence, as provided for in section three thousand one hundred and seventy-six of the Revised Statutes.

Sec. 54. That section twenty of the act entitled "An act to simplify the laws in relation to the collection of revenues," approved June tenth, eighteen hundred and ninety, is hereby amended to read as follows:

"Sec. 20. That any merchandise deposited in bond in any public or private bonded warehouse may be withdrawn for consumption within three years from the date of original importation, on payment of the duties and charges to which it may be subject by law at the time of such withdrawal: *Provided*, That nothing herein shall affect or impair existing provisions of law in regard to the disposal of perishable or explosive articles."

Sec. 55. That all laws and parts of laws inconsistent with this act are hereby repealed: *Provided, however*, That the repeal of existing laws, or modifications thereof, embraced in this act shall not affect any act done or any right accruing or accrued, or any suit or proceeding had or commenced in any civil cause before the said repeal or modifications, but all rights and liabilities under said laws shall continue and may be enforced in the same manner as if said repeal or modification had not been made.

Any offenses committed, and all penalties or forfeitures or liabilities incurred under any statute embraced in, or changed, modified, or repealed by this act may be prosecuted and punished, in the same manner and with the same effect as if this act had not been passed. All acts of limitation, whether applicable to civil causes and proceedings or to the prosecution of offenses, or for the recovery of penalties or forfeitures, embraced in, or modified, changed, or repealed by this act, shall not be affected thereby, and all suits, proceedings, or prosecutions, whether civil or criminal, for causes arising or acts done or committed prior to the passage of this act may be commenced and prosecuted within the same time and with the same effect as if this act had not been passed.

The Silver Bill.—The measure authorizing the issue of Treasury notes upon deposits of silver bullion was introduced in the House of Representatives by Mr. Conger, of Iowa, Jan. 20, 1890, and referred to the Committee on Coinage, Weights, and Measures, which reported it back March 26. On June 7 a substitute, which had been agreed upon by a Republican caucus and adopted instead of the original measure, was passed by the House by the following vote:

YEAS—Adams, Allen of Michigan, Arnold, Atkinson of Pennsylvania, Atkinson of West Virginia, Baker, Banks, Bayne, Beckwith, Belden, Belknap, Bergen, Bingham, Boothman, Boutelle, Bowden, Brewer,

Brosius, Brower, Browne of Virginia, Buchanan of New Jersey, Burrows, Burton, Butterworth, Caldwell, Cannon, Caswell, Cheadle, Clark of Wisconsin, Cogswell, Coleman, Comstock, Conger, Connell, Craig, Dalzell, De Haven, Dingley, Dolliver, Dorsey, Dunnell, Evans, Ewart, Farquhar, Featherston, Finley, Flick, Flood, Frank, Funston, Gear, Gest, Gifford, Greenhalge, Grosvenor, Hall, Hansbrough, Harmer, Haugen, Henderson of Illinois, Henderson of Iowa, Hermann, Hill, Hitt, Hopkins, Houk, Kennedy, Kerr of Iowa, Ketcham, Kinsey, Lacey, La Follette, Laidlaw, Laws, Lind, Lodge, Mason, McComas, McCord, McCormick, McDuffie, McKinley, Miles, Moffitt, Moore of New Hampshire, Morey, Morrill, Morrow, Morse, Mudd, Nute, O'Donnell, O'Neill of Pennsylvania, Payne, Payson, Perkins, Pickler, Pugsley, Quackenbush, Raines, Ray, Reed of Iowa, Reymann, Rife, Rowell, Russell, Sanford, Sawyer, Scranton, Scull, Sherman, Simonds, Smith of West Virginia, Smyser, Snider, Stephenson, Stivers, Stockbridge, Struble, Sweeney, Taylor of Illinois, Taylor of Tennessee, E. B. Taylor, Thomas, Vandever, Van Schaick, Wade, Walker of Massachusetts, Wallace of New York, Wickham, Williams of Ohio, Wilson of Kentucky, Wilson of Washington, Wright, Yardley—135.

NAYS—Abbott, Alderson, Allen of Missouri, Anderson of Kansas, Bankhead, Barnes, Bartine, Barwig, Biggs, Blanchard, Bland, Blount, Breckenridge of Arkansas, Breckinridge of Kentucky, Brickner, Brookshire, Buchanan of Virginia, Bullock, Bynum, Candler of Georgia, Carter, Caruth, Catelings, Chipman, Clancy, Clarke of Alabama, Cobb, Cooper of Indiana, Cottrah, Cowles, Crain, Crip, Culbertson of Texas, Darzan, Davidson, Dockery, Dunphy, Edmunds, Elliott, Ellis, Enloe, Flower, Forney, Fowler, Geissenhainer, Gibson, Goodnight, Grimes, Hatch, Hayes, Haynes, Heard, Henderson of North Carolina, Herbert, Holman, Kelley, Kilgore, Lane, Latham, Lee, Lester of Georgia, Lester of Virginia, Lewis, Maish, Mansur, Martin of Indiana, McClammy, McClelland, McCreary, McKee, Montgomery, Moore of Texas, Morgan, Mutchler, Oates, O'Ferrall, O'Neill of Indiana, O'Neill of Massachusetts, Outhwaite, Owens of Ohio, Parrett, Peel, Penington, Perry, Pierce, Quinn, Reilly, Richardson, Robertson, Rockwell, Rogers, Rowland, Sayers, Seney, Shively, Skinner, Springer, Stewart of Texas, Stockdale, Stone of Kentucky, Tarsney, Tillman, Townsend of Colorado, Tracey, Tucker, Turner of Georgia, Turner of Kansas, Venable, Walker of Missouri, Washington, Wheeler of Alabama, Whitthorne, Wike, Wiley, Wilkinson, Williams of Illinois, Wilson of Missouri, Wilson of West Virginia, Yoder—119.

NOT VOTING—Anderson of Mississippi, Andrew, Bliss, Boatner, J. B. Brown, T. M. Browne, Brunner, Buckalew, Bunn, Campbell, Candler of Massachusetts, Carlton, Chatham, Clements, Clunie, Cooper of Ohio, Covert, Culbertson of Pennsylvania, Cummings, Cutcheon, Darlington, De Lano, Dibble, Fitch, Fithian, Forman, Groat, Hare, Hemphill, Hooker, Kerr of Pennsylvania, Knapp, Lansing, Lawler, Lehlbach, Magner, Martin of Texas, McAdoo, McCarthy, McKenna, McMillin, Milliken, Mills, Niedringhaus, Norton, Osborne, Owen of Indiana, Paynter, Peters, Phelan, Post, Price, Randall, Rusk, Smith of Illinois, Spinola, Spooner, Stahlnecker, Stewart of Georgia, Stewart of Vermont, Stone of Missouri, Stump, J. D. Taylor, Thompson, Townsend of Pennsylvania, Turner of New York, Vaux, Wadliff, Wallace of Massachusetts, Watson, Wheeler of Michigan, Whiting, Wilcox—73.

The title of the bill was amended so as to read: "An act to direct the purchase of silver bullion and the issue of silver notes thereon, and for other purposes."

June 18, the Senate passed a substitute by way of amendment, providing among other things for the free coinage of silver, and the

title of the measure was again changed to read: "A bill to provide for the free coinage of silver bullion and other purposes."

The vote in the Senate on its passage was as follows:

YEAS—Bate, Berry, Blodgett, Butler, Call, Cameron, Cockrell, Coke, Colquitt, Daniel, Eustis, George, Gorman, Harris, Hearst, Ingalls, Jones of Arkansas, Jones of Nevada, Kenna, Manderson, Mitchell, Moody, Morgan, Paddock, Pasco, Payne, Pierce, Plumb, Power, Pugh, Ransom, Reagan, Sanders, Squire, Stewart, Teller, Turpie, Vance, Vest, Voorhees, Walthall, Wolcott—42.

NAYS—Aldrich, Allen, Allison, Blair, Casey, Chandler, Cullom, Dawes, Edmunds, Evarts, Frye, Gray, Hale, Hawley, Hisscock, Hoar, McPherson, Morrill, Platt, Sawyer, Sherman, Spooner, Stockbridge, Washburn, Wilson of Maryland—25.

ABSENT—Barbour, Blackburn, Brown, Carlisle, Davis, Dixon, Dolph, Farwell, Faulkner, Gibson, Hampton, Higgins, McMillan, Pettigrew, Quay, Stanford, Wilson of Iowa—17.

The debate on the measure in both House and Senate was long and earnest; and when the amended bill was returned to the House there was a struggle over its reference. The Speaker referred it to the committee that had reported the measure originally, and the advocates of free coinage, distrusting that body, were eager to have the issue put to the House at once and decided by a direct vote. June 25, the question of concurring in the Senate amendments was put to the House and they were non-concurred in by the following vote:

YEAS—Abbott, Alderson, Allen of Mississippi, Anderson of Kansas, Anderson of Mississippi, Bankhead, Barnes, Bartine, Blanchard, Bland, Blount, Boatner, Breckenridge of Arkansas, Breckenridge of Kentucky, Brickner, Brookshire, J. B. Brown, Brunner, Buchanan of Virginia, Bullock, Bunn, Bynum, Candler of Georgia, Carlton, Carter, Caruth, Catchings, Chipman, Clarke of Alabama, Clements, Cobb, Connell, Cooper of Indiana, Cothran, Cowles, Crain, Crisp, Culberson of Texas, Cummings, Davidson, De Haven, Dockery, Dorsey, Edmunds, Elliott, Ellis, Enloe, Featherston, Fithian, Forman, Forney, Fowler, Funston, Gibson, Gifford, Goodnight, Grimes, Hare, Hatch, Haynes, Heard, Hemphill, Henderson of North Carolina, Herbert, Hermann, Hoffman, Kelley, Kerr of Pennsylvania, Kilgore, Lane, Lanham, Laws, Lee, Lester of Georgia, Lester of Virginia, Lewis, Magnus, Mansur, Martin of Indiana, McClammy, McClellan, McCreary, McMillin, McRae, Mills, Montgomery, Moore of Texas, Morrill, Morrow, Norton, Oates, O'Ferrall, O'Neill of Indiana, Owen of Indiana, Owens of Ohio, Parrett, Paynter, Peel, Pennington, Perkins, Perry, Peters, Pierce, Post, Reilly, Richardson, Robertson, Rowland, Sayers, Shively, Skinner, Smith of Illinois, Springer, Stewart of Georgia, Stewart of Texas, Stockdale, Stone of Kentucky, Stone of Missouri, Tarsney, Tillman, Townsend of Colorado, Tucker, Turner of Georgia, Turner of Kansas, Venable, Wade, Washington, Wheeler of Alabama, Whiting, Whitthorne, Wilkinson, Williams of Illinois, Williams of Ohio, Wilson of Missouri, Wilson of West Virginia—135.

NAYS—Adams, Allen of Michigan, Andrew, Arnold, Atkinson of Pennsylvania, Baker, Banks, Bayne, Beckwith, Belden, Belknap, Bergen, Bingham, Bliss, Boothman, Boutelle, Bowden, Brewer, Brosius, Brower, Browne of Virginia, Buckalew, Burrows, Burton, Butterworth, Caldwell, Campbell, Candler of Massachusetts, Cannon, Caswell, Chandle, Cheatham, Clancy, Cogswell, Coleman, Comstock, Conger, Covert, Craig, Culbertson of Pennsylvania, Cutcheon, Dargan, Darlington, De Lano, Dingley, Dolliver, Dunnell, Dunphy, Evans, Farquhar, Finley, Flick,

Flood, Flower, Frank, Gear, Geissenhainer, Geat, Greenhalge, Grout, Hall, Hansbrough, Harnar, Haugen, Henderson of Illinois, Henderson of Iowa, Hill, Hitt, Hopkins, Houk, Kennedy, Kerr of Iowa, Ketcham, Kinsey, Knapp, Lacey, La Follette, Laidlaw, Lansing, Lehlbach, Lind, Lodge, Maish, Mason, McAdoo, McComas, McCord, McDuffie, McKenna, McKinley, Miles, Miliken, Moffit, Moore of New Hampshire, Morey, Morse, Mudd, Mutchler, Niedringhaus, O'Donnell, O'Neil of Massachusetts, O'Neil of Pennsylvania, Payne, Payson, Pugsley, Quackenbush, Quinn, Raines, Reed of Iowa, Reyburn, Rife, Rowell, Rusk, Russell, Sanford, Sawyer, Scranton, Seull, Sherman, Simonds, Smith of West Virginia, Smyser, Snider, Spinola, Spooner, Stephenson, Stewart of Vermont, Silvers, Stockbridge, Struble, Stump, Sweney, Taylor of Illinois, Taylor of Tennessee, E. B. Taylor, Thomas, Townsend of Pennsylvania, Tracey, Turner of New York, Vandever, Van Schaick, Vaux, Waddill, Wallace of Massachusetts, Wallace of New York, Watson, Wiley, Wilcox, Wilson of Kentucky, Wilson of Washington, Wright, Yardley—152.

NOR VOTING—Atkinson of West Virginia, Barwig, Biggs, T. M. Browne, Buchanan of New Jersey, Clarke of Wisconsin, Clunie, Cooper of Ohio, Dalzell, Dibble, Ewart, Fitch, Grosvenor, Hayes, Hooker, Lawler, Martin of Texas, McCarthy, McCormick, Morgan, Nute, Osborne, Outhwaite, Phelan, Pickler, Price, Randall, Ray, Rockwell, Rogers, Seney, Stahlnecker, J. D. Taylor, Thompson, Walker of Massachusetts, Walker of Missouri, Wheeler of Michigan, Wickham, Wike, Yoder—40.

A conference committee was appointed and agreed upon the following report:

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 5,381) directing the purchase of silver bullion and the issue of Treasury notes thereon, and for other purposes, having met, after full and free conference have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its amendments to said bill and agree to the following in the nature of a substitute: Strike out all after the enacting clause and insert:

"That the Secretary of the Treasury is hereby directed to purchase, from time to time, silver bullion to the aggregate amount of 4,600,000 ounces, or so much thereof as may be offered in each month, at the market price thereof, not exceeding \$1 for 371.25 grains of pure silver, and to issue in payment for such purchases of silver bullion Treasury notes of the United States to be prepared by the Secretary of the Treasury in such form and of such denominations, not less than \$1 nor more than \$1,000, as he may prescribe, and a sum sufficient to carry into effect the provisions of this act is hereby appropriated out of any money in the Treasury not otherwise appropriated.

"**SEC. 2.** That the Treasury notes issued in accordance with the provisions of this act shall be redeemable on demand, in coin, at the Treasury of the United States or at the office of any assistant treasurer of the United States, and when so redeemed may be reissued; but no greater or less amount of such notes shall be outstanding at any time than the cost of the silver bullion, and the standard silver dollars coined therefrom, then held in the Treasury purchased by such notes; and such Treasury notes shall be a legal tender in payment of all debts, public and private, except where otherwise expressly stipulated in the contract, and shall be receivable for customs, taxes, and all public dues, and when so received may be reissued; and such notes, when held by any national banking association, may be counted as a part of its lawful reserve. That upon demand of the holder of any of the Treasury notes herein provided for the Secretary of the Treasury shall, under such regulations as he may prescribe, redeem such notes in gold or silver coin, at his discretion, it being the estab-

lished policy of the United States to maintain the two metals on a parity with each other upon the present legal ratio, or such ratio as may be provided by law.

"Sec. 3. That the Secretary of the Treasury shall each month coin two million ounces of the silver bullion purchased under the provisions of this act into standard silver dollars until the 1st day of July, 1891, and after that time he shall coin of the silver bullion purchased under the provisions of this act as much as may be necessary to provide for the redemption of the Treasury notes herein provided for, and any gain or seigniorage arising from such coinage shall be accounted for and paid into the Treasury.

"Sec. 4. That the silver bullion purchased under the provisions of this act shall be subject to the requirements of existing law and the regulations of the mint service governing the methods of determining the amount of pure silver contained, and the amount of charges or deductions, if any, to be made.

"Sec. 5. That so much of the act of Feb. 28, 1878, entitled 'An act to authorize the coinage of the standard silver dollar and to restore its legal-tender character,' as requires the monthly purchase and coinage of the same into silver dollars of not less than \$2,000,000 nor more than \$4,000,000 worth of silver bullion, is hereby repealed.

"Sec. 6. That upon the passage of this act the balances standing with the Treasurer of the United States to the respective credits of national banks for deposits made to redeem the circulating notes of such banks, and all deposits thereafter received for like purpose, shall be covered into the Treasury as a miscellaneous receipt, and the Treasurer of the United States shall redeem from the general cash in the Treasury the circulating notes of said banks which may come into his possession subject to redemption; and upon the certificate of the Comptroller of the Currency that such notes have been received by him and that they have been destroyed and that no new notes will be issued in their place, reimbursement of their amount shall be made to the Treasurer, under such regulations as the Secretary of the Treasury may prescribe, from an appropriation hereby created, to be known as 'National bank notes: Redemption account,' but the provisions of this act shall not apply to the deposits received under section 3 of the act of June 20, 1874, requiring every national bank to keep in lawful money with the Treasurer of the United States a sum equal to 5 per cent. of its circulation, to be held and used for the redemption of its circulating notes; and the balance remaining of the deposits so covered shall, at the close of each month, be reported on the monthly public debt statement as debt of the United States bearing no interest.

"Sec. 7. That this act shall take effect thirty days from and after its passage."

The conference report was adopted by the Senate July 10 by the following vote:

YEAS—Aldrich, Allen, Allison, Blair, Casev, Culom, Davis, Dawes, Dixon, Dolph, Edmunds, Evarts, Farwell, Frye, Hawley, Higgins, Hiscock, Hoar, Ingalls, Jones of Nevada, McMillan, Manderson, Mitchell, Moody, Pettigrew, Pierce, Platt, Plumb, Power, Quay, Sanders, Sawyer, Sherman, Spooner, Squire, Stewart, Stockbridge, Washburn, Wolcott—39.

NAYS—Barbour, Bate, Blackburn, Call, Carlisle, Cockrell, Coke, Colquitt, Daniel, Faulkner, Gibson, Gorman, Hampton, Harris, Jones of Arkansas, Kennan, McPherson, Pasco, Pugh, Ransom, Reagan, Turpie, Vance, Vest, Voorhees, Walthall—26.

ABSENT—Berry, Blodgett, Brown, Butler, Cameron, Chandler, Eustis, George, Gray, Hale, Hearst, Morgan, Morrill, Paddock, Payne, Stanford, Teller, Wilson of Iowa, Wilson of Maryland—19.

The House of Representatives adopted the conference report July 12 by a vote of 112 yeas to 90 nays.

The President approved the measure July 14.

The Dependent Pension Bill.—On March 31, 1890, the Senate passed a bill "granting pensions to ex-soldiers and sailors who are incapacitated for the performance of manual labor, and providing for pensions to dependent relatives of deceased soldiers and sailors." On April 30 the House of Representatives passed the measure after amending it so as to make it cover the case of every surviving soldier or sailor of sixty-two years of age as in the Mexican War pension bill. The Senate non-concurred in the House amendments and conferees were appointed but failed to agree. A second conference committee submitted the following measure as amended:

Be it enacted, etc., That in considering the pension claims of dependent parents the fact of the soldier's death by reason of any wound, injury, casualty, or disease which under the conditions and limitations of existing laws would have entitled him to an invalid pension, and the fact that the soldier left no widow or minor children having been shown as required by law, it shall be necessary only to show by competent and sufficient evidence that such parent or parents are without other present means of support than their own manual labor or the contributions of others not legally bound for their support: *Provided*, That all pensions allowed to dependent parents under this act shall commence from the date of the filing of the application hereunder and shall continue no longer than the existence of the dependence.

Sec. 2. That all persons who served ninety days or more in the military or naval service of the United States during the late war of the rebellion and who have been honorably discharged therefrom, and who are now or who may hereafter be suffering from a mental or physical disability of a permanent character not the result of their own vicious habits, which incapacitates them from the performance of manual labor in such a degree as to render them unable to earn a support, shall, upon making due proof of the fact according to such rules and regulations as the Secretary of the Interior may provide, be placed upon the list of invalid pensioners of the United States, and be entitled to receive a pension not exceeding \$12 per month, and not less than \$6 per month, proportioned to the degree of inability to earn a support, and such pension shall commence from the date of the filing of the application in the Pension Office, after the passage of this act, upon proof that the disability then existed, and shall continue during the existence of the same: *Provided*, That persons who are now receiving pensions under existing laws, or whose claims are pending in the Pension Office, may by application to the Commissioner of Pensions, in such form as he may prescribe, showing themselves entitled thereto, receive the benefits of this act; and nothing herein contained shall be so construed as to prevent any pensioner thereunder from prosecuting his claim and receiving his pension under any other general or special act: *Provided, however*, That no person shall receive more than one pension for the same period: *And provided further*, That rank in the service shall not be considered in applications filed under this act.

Sec. 3. That if any officer or enlisted man who served ninety days or more in the army or navy of the United States during the late war of the rebellion, and who was honorably discharged, has died or shall hereafter die, leaving a widow without other means of support than her daily labor, or minor children under the age of sixteen years, such widow shall, upon due proof of her husband's death, without proving his death to be the result of his army service, be placed on the pension roll from the date of the application therefor under this act, at the rate of \$6 per month during her widowhood, and shall also be paid \$2 per month for each child of such officer or enlisted man under sixteen years of age, and in case of death or remarriage of the widow, leaving a child

or children of such officer or enlisted man under the age of sixteen years, such pension shall be paid such child or children until the age of sixteen: *Provided*, That in case a minor child is insane, idiotic, or otherwise permanently helpless, the pension shall continue during the life of said child or during the period of such disability, and this proviso shall apply to all pensions heretofore granted, or hereafter to be granted under this or any former statute, and such pension shall commence from the date of application thereof after the passage of this act: *And provided further*, That said widow shall have married said soldier prior to the passage of this act."

SEC. 4. That no agent, attorney, or other person engaged in preparing, presenting, or prosecuting any claim under the provisions of this act, shall, directly or indirectly, contract for, demand, receive, or retain for such services in preparing, presenting, or prosecuting such claim a sum greater than \$10, which sum shall be payable only upon the order of the Commissioner of Pensions, by the pension agent making payment of the pension allowed, and any person who shall violate any of the provisions of this section, or who shall wrongfully withhold from a pensioner or claimant the whole or any part of a pension or claim allowed or due such pensioner or claimant under this act, shall be deemed guilty of a misdemeanor and upon conviction thereof shall, for each and every such offense, be fined not exceeding \$500, or be imprisoned at hard labor not exceeding two years, or both, in the discretion of the court.

The conference report was agreed to in the House of Representatives June 11, and in the Senate June 23. The measure was approved by the President June 27.

New States.—A bill to provide for the admission of Idaho into the Union was passed by the House of Representatives April 3, 1890, by a vote of 129 to 1, the Speaker counting a quorum. The measure was passed by the Senate July 1. The President approved of it July 2.

A bill to provide for the admission of Wyoming was passed by the House of Representatives March 26, 1890, by a vote of 139 to 127. The Senate amended the measure slightly and passed it June 27. The House of Representatives concurred in the Senate amendment, and the President approved of the measure July 11. The main point of discussion in regard to the bill was the provision in the new Constitution in regard to female suffrage, which was retained in spite of some earnest opposition.

Trusts and Combinations.—April 8, 1890, the Senate passed the following measure entitled "A bill to protect trade and commerce against unlawful restraints and monopolies":

SEC. 1. Every contract, combination in form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. Every person who shall make any such contract or engage in any such combination or conspiracy shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding \$5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SEC. 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding \$5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SEC. 3. Every contract, combination in form of trust or otherwise, or conspiracy, in restraint of trade

or commerce in any Territory of the United States or of the District of Columbia, or in restraint of trade or commerce between any such Territory and another, or between any such Territory or Territories and any State or States or the District of Columbia, or with foreign nations, or between the District of Columbia and any State or States or foreign nations, is hereby declared illegal. Every person who shall make any such contract or engage in any such combination or conspiracy shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding \$5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SEC. 4. The several circuit courts of the United States are hereby invested with jurisdiction to prevent and restrain violations of this act; and it shall be the duty of the several district attorneys of the United States, in their respective districts, under the direction of the Attorney-General, to institute proceedings in equity to prevent and restrain such violations. Such proceedings may be by way of petition setting forth the case and praying that such violation shall be enjoined or otherwise prohibited. When the parties complained of shall have been duly notified of such petition the court shall proceed, as soon as may be, to the hearing and determination of the case; and pending such petition and before final decree, the court may at any time make such temporary restraining order or prohibition as shall be deemed just in the premises.

SEC. 5. Whenever it shall appear to the court before which any proceeding under section 4 of this act may be pending that the ends of justice require that other parties should be brought before the court, the court may cause them to be summoned, whether they reside in the district in which the court is held or not; and subpoenas to that end may be served in any district by the marshal thereof.

SEC. 6. Any property owned under any contract or by any combination, or pursuant to any conspiracy (and being the subject thereof) mentioned in section 1 of this act, and being in the course of transportation from one State to another, or to a foreign country, shall be forfeited to the United States, and may be seized and condemned by like proceedings as those provided by law for the forfeiture, seizure, and condemnation of property imported into the United States contrary to law.

SEC. 7. Any person who shall be injured in his business or property by any other person or corporation by reason of anything forbidden or declared to be unlawful by this act, may sue therefor in any circuit court of the United States in the district in which the defendant resides or is found, without respect to the amount in controversy, and shall recover threefold the damages by him sustained, and the costs of suit, including a reasonable attorney's fee.

SEC. 8. That the word "person" or "persons," wherever used in this act shall be deemed to include corporations and associations existing under or authorized by the laws of either the United States, the laws of any of the Territories, the laws of any State, or the laws of any foreign country.

The House passed the measure May 1, amending it so as to make unlawful every contract or agreement entered into for the purpose of preventing competition in the sale or purchase of a commodity transported from one State to be sold in another. The Senate amended the House amendment, and the House of Representatives non-concurred. A conference committee was appointed and failed to agree; but a second conference committee reported, June 18, to the effect that both Houses recede from their respective amendments, leaving the bill as originally passed. The President approved the measure July 2.

Land-Grant Forfeiture.—This old subject was taken up and an important measure was passed "to forfeit certain lands heretofore granted for the purpose of aiding in the construction of railroads." The bill was introduced in the Senate and passed that body April 29, 1890. The House of Representatives passed a substitute by way of amendment July 17. The Senate non-concurred in the amendment, and conferees were appointed. They reported in favor of the following measure:

That there is hereby forfeited to the United States, and the United States hereby resumes the title thereto, all lands heretofore granted to any State or to any corporation to aid in the construction of a railroad opposite to and continuous with the portion of any such railroad not now completed and in operation, for the construction or benefit of which such lands were granted; and all such lands are declared to be a part of the public domain: *Provided*, That this act shall not be construed as forfeiting the right of way or station grounds of any railroad company heretofore granted.

SEC. 2. That all persons who, at the date of the passage of this act, are actual settlers in good faith on any of the lands hereby forfeited, and are otherwise qualified, on making due claim on said lands under the homestead law within six months after the passage of this act, shall be entitled to a preference right to enter the same under the provisions of the homestead law and this act and shall be regarded as such actual settlers from the date of actual settlement or occupation; and any person who has not heretofore had the benefit of the homestead or pre-emption law, or who has failed from any cause to perfect the title to a tract of land heretofore entered by him under either of said laws, may make a second homestead entry under the provisions of this act. The Secretary of the Interior shall make such rules as will secure to such actual settlers these rights.

SEC. 3. That in all cases where persons, being citizens of the United States, or who have declared their intention to become such, in accordance with the naturalization laws of the United States, are in possession of any of the lands affected by any such grant and hereby resumed by and restored to the United States, under deed, written contract with, or license from, the State or corporation to which such grant was made, or its assignees, executed prior to Jan. 1, 1888, or where persons may have settled said lands with *bona fide* intent to secure title thereto by purchase from the State or corporation when earned by compliance with the conditions or requirements of the granting acts of Congress they shall be entitled to purchase the same from the United States, in quantities not exceeding 320 acres to any one such person, at the rate of \$1.25 per acre, at any time within two years from the passage of this act, and on making said payment to receive patents therefor, and where any such person in actual possession of any such lands and having improved the same prior to the 1st day of January, 1890, under deed, written contract, or license as aforesaid, or his assignor, has made partial or full payments to said railroad company prior to said date, on account of the purchase price of said lands from it, on proof of the amount of such payments he shall be entitled to have the same, to the extent and amount of \$1.25 per acre, if so much has been paid, and not more, credited to him on account of and as part of the purchase price herein provided to be paid to the United States for said lands, or such persons may elect to abandon their purchases and make claim on said lands under the homestead law and as provided in the preceding section of this act: *Provided*, That in all cases where parties, persons, or corporations, with the permission of such State or corporation, or its assignees, are in the possession of and have made improvements upon any of the lands hereby resumed and restored, and

are not entitled to enter the same under the provisions of this act, such parties, persons, or corporations shall have six months in which to remove any growing crop, and within which time they shall also be entitled to remove all buildings and other movable improvements from said lands: *Provided further*, That the provisions of this section shall not apply to any lands situated in the State of Iowa on which any person in good faith has made or asserted the right to make a pre-emption or homestead settlement: *And provided further*, That nothing in this act contained shall be construed as limiting the rights granted to purchasers or settlers by "An act to provide for the adjustment of land grants made by Congress to aid in the construction of railroads and for the forfeiture of unearned lands, and for other purposes," approved March 8, 1887, or as repealing, altering, or amending said act, nor as in any manner affecting any cause of action existing in favor of any purchaser against his grantor for breach of any covenants of title.

SEC. 4. That section 5 of an act entitled "An act for a grant of lands to the State of Iowa in alternate sections to aid in the construction of a railroad in said State," approved May 17, 1864, and section 7 of an act entitled "An act extending the time for the completion of certain land-grant railroads in the States of Minnesota and Iowa, and for other purposes," approved March 3, 1865, and also section 5 of an act entitled "An act making an additional grant of lands to the State of Minnesota in alternate sections to aid in the construction of railroads in said State," approved July 4, 1866, so far as said sections are applicable to lands embraced within the indemnity limits of said grants, be, and the same are hereby, repealed; and so much of the provisions of section 4 of an act approved June 2, 1864, and entitled "An act to amend an act entitled 'An act making a grant of lands to the State of Iowa in alternate sections to aid in the construction of certain railroads in said State,'" approved May 15, 1856, be, and the same are hereby, repealed so far as they require the Secretary of the Interior to reserve any lands but the odd sections within the primary or 6 miles granted limits of the roads mentioned in said act of June 2, 1864, or the act of which the same is amendatory.

SEC. 5. That if it shall be found that any lands heretofore granted to the Northern Pacific Railroad Company and so resumed by the United States and restored to the public domain lie north of the line known as the "Harrison line," being a line drawn from Wallula, Wash., easterly to the southeast corner of the northeast one fourth of the southeast quarter of section 27, in township 7 north, of range 37 east, of the Willamette meridian, all persons who had acquired in good faith the title of the Northern Pacific Railroad Company to any portion of said lands prior to July 1, 1885, or who at said date were in possession of any portion of said lands or had improved the same, claiming the same under written contract with said company, executed in good faith, or their heirs or assigns, as the case may be, shall be entitled to purchase the lands so acquired, possessed, or improved, from the United States, at any time prior to the expiration of one year after it shall be finally determined that such lands are restored to the public domain by the provisions of this act, at the rate of \$2.50 per acre, and to receive patents therefor upon proof before the proper land office of the fact of such acquisition, possession, or improvement, and payment therefor, without limitation as to quantity: *Provided*, That the rights of way and riparian rights heretofore attempted to be conveyed to the city of Portland, in the State of Oregon, by the Northern Pacific Railroad Company and the Central Trust Company of New York, by deed of conveyance dated Aug. 8, 1886, and which are described as follows: A strip of land 50 feet in width, being 25 feet on each side of the center line of a water-pipe line, as the same is staked out and located, or as it shall be hereafter finally located according to the provisions of an

act of the Legislative Assembly of the State of Oregon approved Nov. 25, 1885, providing for the means to supply the city of Portland with an abundance of good, pure, and wholesome water over and across the following described tracts of land: Sections 19 and 31 in township 1 south, of range 6 east; sections 25, 31, 33, and 35 in township 1 south, of range 5 east; sections 3 and 5 in township 2 south, of range 5 east; section 1 in township 2 south, of range 4 east; sections 23, 25, and 35 in township 1 south, of range 4 east, of the Willamette meridian, in the State of Oregon, forfeited by this act, are hereby confirmed unto the said city of Portland, in the State of Oregon, its successors and assigns, forever, with the right to enter on the hereinafore-described strip of land, over and across the above-described sections for the purpose of constructing, maintaining, and repairing a water-pipe line aforesaid.

Sec. 6. That no lands declared forfeited to the United States by this act shall by reason of such forfeiture inure to the benefit of any State or corporation to which lands may have been granted by Congress, except as herein otherwise provided; nor shall this act be construed to enlarge the area of land originally covered by any such grant, or to confer any right upon any State, corporation, or person to lands which were excepted from such grant. Nor shall the moiety of the lands granted to any railroad company on account of a main and a branch line appertaining to uncompleted road, and hereby forfeited, within the conflicting limits of the grant for such main and branch lines, when but one of such lines has been completed, inure by virtue of the forfeiture hereby declared, to the benefit of the completed line.

Sec. 7. That in all cases where lands included in a grant of land to the State of Mississippi, for the purpose of aiding in the construction of a railroad from Brandon to the Gulf of Mexico, commonly known as the Gulf and Ship Island Railroad, have heretofore been sold by the officers of the United States for cash, or with the allowance or approval of such officers have entered in good faith under the pre-emption or homestead laws, or upon which there were *bona fide* pre-emption or homestead claims on the 1st day of January, 1890, arising or asserted by actual occupation of the land under color of the laws of the United States, the right and title of the persons holding or claiming any such lands under such sales or entries are hereby confirmed, and persons claiming the right to enter as aforesaid may perfect their entry under the law. And on condition that the Gulf and Ship Island Railroad Company within ninety days from the passage of this act shall, by resolution of its board of directors, duly accept the provisions of the same and file with the Secretary of the Interior a valid relinquishment of all said company's interest, right, title, and claim in and to all such lands as have been sold, entered, or claimed, as aforesaid, then the forfeiture declared in the first section of this act shall not apply to or in any wise affect so much and such parts of said grant of lands to the State of Mississippi as lie south of a line drawn east and west through the point where the Gulf and Ship Island Railroad may cross the New Orleans and Northeastern Railroad in said State, until one year after the passage of this act. And there may be selected and certified to or in behalf of said company lands in lieu of those hereinbefore required to be surrendered to be taken within the indemnity limits of the original grant nearest to and opposite such part of the line as may be constructed at the date of selection.

Sec. 8. That the Mobile and Girard Railroad Company, of Alabama, shall be entitled to the quantity of land earned by the construction of its road from Girard to Troy, a distance of eighty-four miles. And the Secretary of the Interior in making settlement and certifying to or for the benefit of said company the lands earned thereby shall include therein all the lands sold, conveyed, or otherwise disposed of by said company, not to exceed the total amount earned by said company, as aforesaid. And the title of the

purchasers to all such lands are hereby confirmed so far as the United States are concerned.

But such settlement and certification shall not include any lands upon which there were *bona fide* pre-emption or homestead claims on the 1st day of January, 1890, arising or asserted by actual occupation of the land under color of the laws of the United States.

The right hereby given to the said railroad company is on the condition that it shall within ninety days from the passage of this act, by resolution of its board of directors, duly accept the provisions of the same and file with the Secretary of the Interior a valid relinquishment of all said company's interest, right, title, and claim in and to all such lands within the limits of its grant as have heretofore been sold by the officers of the United States for cash, where the Government still retains the purchase money, or with the allowance or approval of such officers have been entered in good faith, under the pre-emption or homestead laws, or, as are claimed under the homestead or pre-emption laws as aforesaid, and the right and title of the persons holding or claiming any such lands under such sales, or entries, are hereby confirmed, and all such claims under the pre-emption or homestead laws, may be perfected as provided by law. Said company to have the right to select other lands, as near as practicable, to construct road, and within indemnity limits, in lieu of the lands so relinquished. And the title of the United States is hereby relinquished in favor of all persons holding under any sales by the local land officers, of the lands in the granted limits of the Alabama and Florida Railroad grant, where the United States still retains the purchase money, but without liability or the part of the United States.

Sept. 16 the Senate adopted this conference report; Sept. 25 the House of Representatives adopted it; and Sept. 29 the President approved the measure.

Original-Package Law.—On May 29, 1890, the Senate passed the following measure under the title, "A bill to limit the effects of the regulation of commerce between the several States and with foreign countries, in certain cases":

That all fermented, distilled, or other intoxicating liquors or liquids, transported into any State or Territory, or remaining therein for use, consumption, sale, or storage therein, shall upon arrival in such State or Territory be subject to the operation and effect of the laws of such State or Territory, enacted in the exercise of its police powers, to the same extent and in the same manner as though such liquors or liquids had been produced in such State or Territory, and shall not be exempt therefrom by reason of being introduced therein in original packages or otherwise.

This bill was considered as necessary in view of a decision of the Supreme Court to the effect that "intoxicating liquors manufactured in one State, conveyed into another, and there sold by the manufacturer or his agent, is protected by the Constitution of the United States from any regulation or prohibition of that sale by the State law, on the ground that such prohibition or regulation is an interference with the regulation of commerce between the States." July 22, the House of Representatives passed the following substitute:

That whenever any article of commerce is imported into any State from any other State, Territory, or foreign nation, and there held or offered for sale, the same shall then be subject to the laws of such State: *Provided*, That no discrimination shall be made by any State in favor of its citizens against those of other States or Territories in respect to the sale of any article of commerce, nor in favor of its own products against those of like character produced in other States or Territories. Nor shall the transportation of commerce

through any State be obstructed except in the necessary enforcement of the health laws of such State.

This measure differed from the Senate bill in making its provisions apply to any article of commerce. The Senate non-concurred in the House amendment, and a conference committee reported Aug. 6, in favor of withdrawing that amendment and adopting the measure as originally passed by the Senate. Aug. 8, the President approved the bill.

Lotteries.—The following measure "to amend certain sections of the Revised Statutes relating to lotteries, and for other purposes," was passed by the House of Representatives Aug. 16, 1890:

Be it enacted, etc., That section 3894 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"Sec. 3894. No letter, postal card, or circular concerning any lottery, so-called gift concert, or other similar enterprise offering prizes dependent upon lot or chance, or concerning schemes devised for the purpose of obtaining money or property under false pretenses, and no list of the drawings at any lottery or similar scheme, and no lottery ticket or part thereof, and no check, draft, bill, money, postal note, or money order for the purchase of any ticket, tickets, or part thereof, or of any share of any chance in any such lottery or gift enterprise, shall be carried in the mail or delivered at or through any post-office or branch thereof, or by any letter carrier; nor shall any newspaper, circular, pamphlet, or publication of any kind containing any advertisement of any lottery or gift enterprise of any kind offering prizes dependent upon lot or chance, or containing any list of prizes awarded at the drawings of any such lottery or gift enterprise, whether said list is of any part or of all the drawing, be carried in the mail or delivered by any postmaster or letter carrier. Any person who shall knowingly deposit or cause to be deposited, or who shall knowingly send or cause to be sent, anything to be conveyed or delivered by mail in violation of this section, or who shall knowingly cause to be delivered by mail anything herein forbidden to be carried by mail, shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not more than \$500 or by imprisonment for not more than one year, or by both such fine and imprisonment for each offense. Any person violating any of the provisions of this section may be proceeded against by information or indictment, and tried and punished either in the district at which the unlawful publication was mailed or to which it is carried by mail for delivery according to the direction thereon, or at which it is caused to be delivered by mail to the person to whom it is addressed."

Sec. 2. That section 3929 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"Sec. 3929. The Postmaster-General may, upon evidence satisfactory to him that any person or company is engaged in conducting any lottery, gift enterprise, or scheme for the distribution of money, or of any real or personal property by lot, chance, or drawing of any kind, or that any person or company is conducting any other scheme or device for obtaining money or property of any kind through the mails by means of false or fraudulent pretenses, representations, or promises, instruct postmasters at any post-office at which registered letters arrive directed to any such person or company, or to the agent or representative of any such person or company, whether such agent or representative is acting as an individual or as a firm, bank, corporation, or association of any kind, to return all such registered letters to the postmaster at the office at which they were originally mailed, with the word "Fraudulent" plainly written or stamped upon the outside thereof; and all such letters so returned to such postmasters shall be by them returned to the writers thereof, under such regulations as the Postmaster-General may prescribe. But nothing contained in this section shall be so construed as to authorize

any postmaster or other person to open any letter not addressed to himself. The public advertisement by such person or company so conducting such lottery, gift enterprise, scheme, or device, that remittances for the same may be made by registered letters to any other person, firm, bank, corporation, or association named therein shall be held to be *prima facie* evidence of the existence of said agency by all the parties named therein. But the Postmaster-General shall not be precluded from ascertaining the existence of such agency in any other legal way satisfactory to himself."

Sec. 3. That section 4041 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"Sec. 4041. The Postmaster-General may, upon evidence satisfactory to him that any person or company is engaged in conducting any lottery, gift enterprise, or scheme for the distribution of money, or of any real or personal property by lot, chance, or drawing of any kind, or that any person or company is conducting any other scheme for obtaining money or property of any kind through the mails by means of false or fraudulent pretenses, representations, or promises, forbid the payment by any postmaster to said person or company of any postal money orders drawn to his or its order, or in his or its favor, or to the agent of any such person or company, whether such agent is acting as an individual or as a firm, bank, corporation, or association of any kind, and may provide by regulation for the return to the remitters of the sums named in such money orders. But this shall not authorize any person to open any letter not addressed to himself. The public advertisement by such person or company so conducting any such lottery, gift enterprise, scheme, or device, that remittances for the same may be made by means of postal money orders to any other person, firm, bank, corporation, or association named therein shall be held to be acknowledgment of the existence of said agency by all the parties named therein."

The Senate passed the measure Sept. 16, and the President approved it Sept. 27.

Miscellaneous.—The extradition treaty with Great Britain and the Samoan treaty were ratified by the Senate.

Laws were passed selecting Chicago as the site of the World's Fair and providing for a national commission; requiring the superintendent of the census to collect statistics of farms and mortgage indebtedness; increasing the pension of those totally disabled and permanently helpless to \$72 a month; providing for assistant secretaries of the war and navy; authorizing the President to make regulations for the prevention of the spread of contagious diseases from one State to another; granting certificates of discharge to persons enlisted under assumed names during the civil war; providing for the exportation of fermented liquor in bond without payment of internal-revenue tax; extending the criminal jurisdiction of the Federal courts to the Great Lakes; to provide for the inspection, under the direction of the Secretary of Agriculture, of meats entered for export; prohibiting the exportation of adulterated articles of food and drink; and enabling the President to prevent the importation of impure or adulterated articles of food.

Uncompleted Legislation.—Various important measures were passed by either house, but failed to come up for final action in the other, and await their fate in the second session. The most conspicuous of these was the measure for regulating Federal elections, which took up much of the attention of the Congress, and was more earnestly debated and possibly regarded with greater partisan interest than even the tariff measure.

CONNECTICUT, a New England State, one of the original thirteen; ratified the national Constitution Jan. 9, 1788; area, 4,900 square miles. The population, according to each decennial census, was 237,946 in 1790; 251,002 in 1800; 261,942 in 1810; 275,148 in 1820; 297,675 in 1830; 309,978 in 1840; 370,792 in 1850; 460,147 in 1860; 537,454 in 1870; 622,700 in 1880; and 746,258 in 1890.

Government.—The following were the State officers during the year: Governor, Morgan G. Bulkeley, Republican; Lieutenant-Governor, Samuel E. Merwin; Secretary of State, R. Jay Walsh; Treasurer, E. Stevens Henry; Comptroller, John B. Wright; Secretary of the State Board of Education, Charles D. Hine; Insurance Commissioner, Orsamus R. Fyler; Railroad Commissioners, George M. Woodruff, William H. Haywood, William O. Seymour; Chief Justice of the Supreme Court, Charles B. Andrews; Associate Justices, Elisha Carpenter, Dwight Loomis, Edward W. Seymour, and Dwight W. Pardee, succeeded by David Torrance.

Finances.—For the fiscal year ending July 1, 1890, the State Treasurer makes the following report: Balance on hand July 1, 1889, \$530,372.25; total receipts for the year ensuing, \$2,134,552.46; total expenditures, \$1,767,250.45; balance on hand July 1, 1890, \$897,674.26. The receipts were derived from the following sources: Tax on mutual-insurance companies, \$241,439.63; tax on stock of non-residents, \$84,781.60; telegraph and telephone company tax, \$10,555; savings-bank tax, \$246,799.87; railroad tax, \$772,678.64; one-mill tax on property, \$354,557.65; military commutation tax, \$119,691.80; interest on cash balances in the treasury, \$29,243; investment tax, inheritance tax, and other new taxes, \$149,525.55; miscellaneous receipts, \$125,279.72. The receipts for the year were far beyond the estimates. This was chiefly due to a largely increased revenue from the railroad tax and to income from the new taxes on investments, inheritances, etc., imposed for the first time by the last General Assembly. A large balance in the treasury was thereby produced, in view of which the Treasurer felt justified in announcing in September, under authority given him by the last General Assembly, that the one-mill State tax on property for the year, which would have yielded about \$350,000, need not be levied. He further announced his readiness to redeem \$200,000 additional of the \$1,000,000 3-per-cent. bonds issued in 1887 and redeemable at the option of the State. Only \$300,000 of the issue will remain unredeemed after this sum is retired, and the State debt will be reduced to \$3,540,200.

Under the new investment tax law, the total receipts by the State treasury to July 1, 1890, were \$129,452.06, which was considerably in excess of the \$100,000 estimated at the time of the passage of the law, as the probable receipts for the first year of its operation. The taxes were paid on 44,301 different bonds, choses in action, etc., representing a valuation of \$33,654,335. These figures demonstrate the success of the law in bringing to light securities that were never before taxed. The list of taxable property for 1888 (before the law went into effect) showed a total of railroad, city, and other corporation

bonds and money at interest owned by the people of the State amounting to only \$11,505,210, while under this law the people have produced and registered with the State Treasurer for taxation securities of the same kind aggregating over \$33,000,000, nearly all of which must have existed and been properly subject to taxation in 1888. The income from the new law taxing collateral inheritances was \$14,600.42 for the first year of its operation ending July 1, 1890. By reason of the suspension of the one-mill tax for general purposes, no *ad valorem* State tax was levied this year.

Valuations.—The assessed valuation of the State for 1889 shows an aggregate of \$358,913,906, against \$354,557,515 for 1888. The number of dwellings has increased from 108,391 to 112,072, and the valuation from \$151,803,242 to \$158,825,997. The valuation of land has increased about \$350,000, due, in large part, to the greater value of city properties. Mills, stores, etc., show an increase of about \$1,250,000; the value of cattle, horses, sheep, etc., something over \$50,000; bank, insurance, and manufacturing stocks, about \$70,000; quarries, fisheries, and mines, about \$10,000; money invested in merchandising and trade, about \$500,000; and investments in mechanical and manufacturing operations, about \$1,750,000.

Education.—The following statistics from the latest report of the State Board of Education cover the school year 1888-'89: Children of school age in the State, 157,243; number enrolled in the public schools, 127,089; enrolled in other schools, 18,269; not enrolled in any school, 22,586; average daily attendance in the public schools, 82,382; number of male teachers in the public schools, 468; female teachers, 2,785; average monthly wages, male teachers, \$74.47; average monthly wages, female teachers, \$39.31; number of schools taught, 1,629; number of school-houses, 1,645; value of school property, \$6,275,177; average length of school year, 180.32 days. The total amount expended in the State for public schools during the year was \$1,984,254; of which \$1,291,472 was paid for teachers' wages, and \$226,190 for new school-houses. The total revenue available for school purposes during the year was \$1,990,336, of which \$117,932 was derived from the income of the State school fund, \$235,864 from the State tax for schools, \$941,881 from town-school taxes, and 570,660 from district-school taxes. During the past few years there has been a large increase of the private and parochial schools, and the increase of school attendance has fallen almost wholly to them. The night-school attendance is decreasing.

In the greater part of the State the school-district system of management still prevails. A law was enacted in 1866 granting to towns the right to adopt the town system by vote, under which 22 of the 163 towns in the State have abolished their school districts, and now regulate directly all public schools within their limits; but the progress of the change to the new system has been slow.

At the State Normal School, New Britain, 352 students were enrolled during the year 1888-'89, an increase of 33 over the previous year. The improvements in the school buildings, authorized by the last General Assembly, are nearly com-

pleted. The normal school established at Willimantic by the last General Assembly was opened for students in September, 1889, and 27 pupils were admitted. In October, 1890, the attendance had increased to 70. The school building is not yet completed.

Militia.—Early in the year a controversy arose between the Governor and the officers of the First Regiment of the National Guard, occasioned by the practice of renting the armory of the regiment in Hartford on certain nights in the week to be used as a place of amusement. When the question of renting the armory for the winter of 1889-'90 came up for consideration, the officers and members of the regiment objected, on the ground that they needed it on the nights in question for drilling; but the quartermaster-general continued to rent it as before. The regiment officers—over twenty in number—thereupon tendered their resignations. Efforts to settle the controversy failed, the officers persisting in their resignations, which were twice returned to them unaccepted. It finally became a question whether discipline should be preserved in the Guard, and the Governor, before whom, as commander-in-chief, the matter was brought, in January issued an order dismissing some of the refractory officers, three of them dishonorably, and ordering the others back to duty. This action intensified the bitterness, as this was the first instance in the history of the State in which the Governor had exercised his power to dismiss dishonorably. In February the various companies of the regiment defiantly renominated the officers dismissed, but the Governor promptly refused to approve the nominations, and new men were finally chosen. Whether the Governor could in this case legally exercise the power of dishonorable dismissal was not clear, and in May the question came before the Superior Court by means of a writ of *quo warranto* brought by the old officers against their successors, to ascertain whether the latter were legally entitled to their office. A hearing was not held until November, and the decision of the court was reserved.

The membership of the National Guard on Dec. 1, 1889, was as follows: Commissioned officers, 174; enlisted men, 2,399; total, 2,573, a gain of 22 for the year.

Population.—The official returns from the national census of 1890 are compared with similar returns for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Fairfield.....	112,042	149,855	37,813
Hartford.....	125,832	147,171	21,339
Litchfield.....	52,044	58,502	6,458
Middlesex.....	35,549	39,525	3,976
New Haven.....	156,723	208,904	52,181
New London.....	78,152	76,772	1,380
Tolland.....	24,112	25,044	932
Windham.....	43,856	45,088	1,232
Total.....	622,700	746,258	123,558

The population of the principal cities and towns is as follows: New Haven, 85,981, increase in ten years, 23,099; Hartford, 53,182, increase, 11,167; Bridgeport, 48,856, increase, 21,213; Waterbury, 28,591, increase, 10,785; Meriden, 21,230, increase, 5,690; Danbury, 19,385, increase, 7,719; New Britain, 19,010, increase, 7,210; Norwalk, 17,539, increase, 3,583; Norwich, 16,192, increase,

1,080; Stamford, 15,685, increase, 4,388; New London, 13,759, increase, 3,222; Greenwich, 10,120, increase, 2,228; Windham, 10,025, increase, 1,761.

County Debts.—None of the counties of the State have a bonded debt, and only four a floating debt, amounting this year to \$44,713. Litchfield and Middlesex Counties owe between \$1,000 and \$5,000; Windham County, between \$5,000 and \$10,000; and Hartford County, between \$20,000 and \$35,000.

Manufactures.—The annual report of the State Bureau of Labor Statistics for 1889 contains the following figures gathered from the business in 1888 of 241 establishments engaged in 22 lines of industry: Capital, \$85,863,522.26; value of goods manufactured, \$85,929,133.43; stock and materials, \$45,368,408.47; cost of manufacture (less rent, interest, and taxes), \$31,621,592.93; rent, interest, and taxes, \$1,690,420.52; net profits, \$7,248,711.51; wages, \$22,432,824.66; persons employed, not including officers, etc., 53,147.

A comparison is given of the business of 85 establishments for 1887 and 1888, from which the following figures are taken:

	1887.	1888.
Number of employes.....	26,068	27,094
Capital.....	\$45,664,149	\$49,112,149
Value of goods.....	48,048,193	45,764,880
Value of materials.....	28,216,576	24,440,041
Cost of manufacture, less rent, interest, and taxes.....	16,272,645	17,186,894
Net profits.....	2,741,305	8,297,961
Wages.....	11,876,894	12,082,412

Fisheries.—The following statistics of the oyster industry for the year ending May 1, 1889, are given in the report of the Labor Bureau: Capital, \$3,322,311; receipts, \$1,232,146; expenses, \$556,765.83; losses by starfish, drills, winkles, and storm, \$543,750; wages (included in expenses), \$263,562; earnings of natural growers, \$109,372; number of owners, 613; number of employes, 1,024; natural growers, 391; grounds, State and town, 80,963.7 acres; vessels, 453.

In the halibut, cod, and mackerel fishery Connecticut stands fourth among the States. The capital invested is \$351,500; value of catch, \$289,800; wages paid, \$79,625. Ninety-two smacks are engaged with 602 men. These figures, as well as those that follow, cover the year ending May 1, 1889.

The capital of all kinds, including the value of vessels and outfits employed in the menhaden fishery, is \$210,825. The vessels number 48, including 4 steamers. Their total value is \$40,700. The employes number 323, with wages and shares aggregating \$63,138. The catch by factory steamers and traps is valued at \$60,398; by other traps, \$8,009.74. The value of oil is \$73,090, and of fertilizer \$60,950, a total of \$134,040. To this should be added the catch of other traps (\$8,009.74); total, \$142,049.74.

The capital invested in the whale and seal fishery is \$88,000. It employs 90 men. There are 3 schooners with a tonnage of 477 and a value of \$27,000. The number of seal skins taken last year was 1,996. There were 26,460 gallons of sperm oil made, 43,835 gallons of common oil,

and 2,179 pounds of whalebone secured. The total receipts were \$53,299.50, and total expenses \$22,000.

Lobster fishing shows a total capital of \$69,462, with \$95,175 as the value of the catch. Thirty-two vessels are employed and 257 men, all but 33 classed as owners. The wages of the 33 aggregate \$9,900.

The shad-fishing statistics for 1889 show a total of 53 traps, with a catch for pound fisheries of 31,000, valued at \$7,750, and of 31,900 for river fisheries with a value of \$7,975. The total catch was 62,900, valued at \$15,725, a considerable decrease from 1888. The capital is \$41,736; the vessels employed, 89; the men employed, 174; and the wages paid, \$4,699.

The shad fishery in Connecticut river is steadily declining, largely on account of the wholesale capture of the fish in pounds near the mouth of the river.

Local Option.—At the town elections held throughout the State early in October, 83 towns voted for license under the local-option law and 85 towns for no license. There were a few changes from one column to the other, but the totals were unchanged from last year.

Political.—On Aug. 13 the Prohibitionists met in State convention at Hartford and nominated the following ticket: For Governor, Phineas M. Augur; for Lieutenant-Governor, De Witt C. Pond; for Secretary of State, Henry R. Palmer; for Treasurer, John B. Smith; for Comptroller, Frederick M. Hawley. The resolutions reiterate the demand of the party for prohibition, and incidentally favor a low tariff, woman suffrage, legislation for the farmers, and numerous other reforms.

The Democratic State Convention assembled at Hartford on Sept. 16. Its nominees were Luzon B. Morris for Governor, Joseph W. Alsop for Lieutenant-Governor, John J. Phelan for Secretary of State, Marvin H. Sanger for Treasurer, and Nicholas Staub for Comptroller. The platform demands such revision of the tariff as shall admit crude materials of manufacture free, and lighten the burdens upon the necessities of life. On State issues the following declarations were made:

We declare for an amendment to the State Constitution providing for the election of all State officers by a plurality of votes.

All unnecessary and vexatious interference with personal liberty, by means of sumptuary enactments, we oppose as contrary to the spirit of our free institutions; and we demand that county commissioners be elected by the people and the present unjust, arbitrary, partisan, and undemocratic method of appointment be repealed.

We regard the secret ballot law, enacted by the last General Assembly in response to the repeated demands of the Democratic party, as a step in the right direction, and we favor such amendments thereto as will render its compulsory secrecy absolute, for the suppression of bribery and intimidation, and will prevent such attempted evasions of the same as were practiced by high authority at the last election in the city of Hartford.

We favor legislation to protect the people from adulterated food products, and we demand that such laws shall be executed by officials who are in sympathy with them and not by political beneficiaries.

On Sept. 17 the Republican convention met at New Haven, and nominated Lieut.-Gov.

Samuel E. Merwin as its candidate for Governor by a vote of 398 to 51 for Gov. Bulkeley. George A. Bowen was nominated for Lieutenant-Governor, George P. McLean for Secretary of State, E. Stevens Henry for Treasurer, and Lyman S. Catlin for Comptroller. The platform makes the following comments on local questions:

We invite attention to the various laws enacted by Republican General Assemblies in the interest of public health and against adulterations; and we declare that it is the duty of the next General Assembly to adopt further measures to protect the market for the honest producer and to prevent the manufacture and sale of fraudulent and injurious adulterations and imitations of foods.

We point with pride to the fact that the Republican party has adopted in this State restrictive measures over the expenditure of the moneys of the State, and has increased the revenue derived from corporations and from personal estate. With conspicuous economy and ability the State finances have been so managed that while liberal expenditures have been made for every interest in the State, the revenues have been so increased that a direct State tax was abolished.

We demand such economy in appropriations by the next General Assembly and such continuance of the present policy of taxation that towns may continue to be relieved from the payment of a State tax.

The Agricultural College fund should be devoted to the purposes intended by the creative act. The General Assembly should, if found necessary, take appropriate action to insure the benefits of that fund to the farmers and farming interests of the State.

The candidates for Lieutenant-Governor on both the Republican and Democratic tickets were direct representatives of the farmers, who, through their granges, were also instrumental in securing from the convention of each party declarations in favor of "anti-oleo" laws and other legislation for their interest. There was also a Labor ticket in the field, headed by Henry C. Baldwin for Governor. Discussion during the canvass was almost entirely devoted to national issues. At the election in November the Democratic ticket received a considerable plurality over the Republican ticket; but a majority being necessary to elect, there was some doubt whether there had been a choice by the people for Governor or Treasurer. For determining the result of an election the State Constitution provides as follows:

A fair list of the persons and number of votes given for each, together with the returns of presiding officers of [election in each town], shall be, by the Treasurer, Secretary, and Comptroller, made and laid before the General Assembly, then next to be held, on the first day of the session thereof; and said Assembly shall, after examination of the same, declare the person whom they shall find to be legally chosen and give him notice accordingly. If no person shall have a majority of the whole number of said votes, or if two or more shall have an equal and the greatest number of said votes, then said Assembly on the second day of their session, by joint ballot of both Houses shall proceed, without debate, to choose a Governor from a list of the names of the two persons having the greatest number of votes, or of the names of the persons having an equal and highest number of votes so returned, as aforesaid. The General Assembly shall by law prescribe the manner in which all questions concerning the election of a Governor, or Lieutenant-governor, shall be determined.

Pursuant to these provisions, the returns made to the Secretary of State by the presiding officers of election were examined on Nov. 26

by the Secretary, Treasurer, and Comptroller, and the following result ascertained: For Governor—Morris, 67,662; Merwin, 63,976; Augur, 3,413; Baldwin, 209; scattering, 38; majority for Morris, 26. For Lieutenant-Governor—Alsop, 67,881; Bowen, 63,685; Pond, 3,414; Saunders, 189; scattering, 35; majority for Alsop, 558. For Secretary of State—Phelan, 67,754; McLean, 63,530; Palmer, 3,455; Lane, 178; scattering, 47; majority for Phelan, 544. For Treasurer—Sanger, 67,741; Henry, 63,791; Smith, 3,429; Corning, 155; scattering, 76; majority for Sanger, 290. For Comptroller—Staub, 68,271; Catlin, 62,977; Hawley, 3,414; Sheldon, 182; scattering, 36; majority for Staub, 1,662. To this official summary of the face of the returns, which must be laid before the General Assembly for its action, the canvassers added the following statement:

The official returns show also that in certain voting districts a large number of ballots were cast which were not counted, for the following reasons, viz:

"Prohibition votes not printed in conformity with the law";

"Not printed according to law";

"The word 'for' was printed before the name of the office voted for";

"Marked";

"Illegal";

and for other causes which are not specifically stated.

No return of the names of the persons for whom these ballots were cast has been made.

It also appears from evidence presented to the canvassers that there is a clerical error in the return of the vote of the town of Milford.

It is claimed by the Republicans that many of the ballots so returned by the presiding officers as being rejected were in fact legal votes for the Prohibition candidates, and that if they were counted as they should be, the apparent majority for Morris would be wiped out and there would be no election of Governor, and possibly of Treasurer, by the people. It rests with the General Assembly, which will meet in January, 1891, to decide whether it will go behind the returns and ascertain the legality of the rejected ballots, or will declare the result as shown upon the face of the returns certified to it as above. This Assembly was chosen at the same election, and will contain in the Senate 7 Republicans and 17 Democrats, and in the House 133 Republicans and 119 Democrats, giving the Republicans a majority of 4 on joint ballot.

At the same election the following Members of Congress were chosen: First District, Lewis Sperry, Democrat, over W. Edgar Simonds, Republican, by a plurality of 692; Second District, Washington F. Wilcox, Democrat, over Josiah M. Hubbard, Republican, by a plurality of 3,531; Third District, Charles A. Russell, Republican, over David A. Wells, Democrat, by a plurality of 992; Fourth District, Robert E. De Forest, Democrat, over Frederick Miles, Republican, by a plurality of 956.

COSTA RICA, a republic in Central America. The executive authority is vested in a President, elected for four years, and the legislative authority in a Chamber of Representatives, the members of which are elected for four years, half retiring every two years. The franchise is limited to adult males who live in respectable circumstances. The President is Gen. Bernardo Soto, who as Vice-President succeeded on the death

of Próspero Fernandez, March 11, 1885, and was elected for a full term in May, 1886.

Area and Population.—The area of the republic is estimated at 20,000 square miles. The population in the beginning of 1889 was estimated at 205,730. A considerable proportion of the urban population is of pure Spanish descent. There were about 1,000 immigrants in 1887, half from Jamaica and half from Italy. The school attendance in 1888 was 12,733, besides 2,500 pupils in private schools. The number of children of school age was 27,245 in 1884. The permanent military force is 600 men; the strength of the militia, all able-bodied men between the ages of eighteen and fifty, is 31,824.

Commerce.—The total value of imports in 1888 was 5,201,922 pesos, and of exports 5,713,792 pesos. The export of coffee was 10,258 tons, valued at 4,742,000 pesos, of which 6,025 tons went to Great Britain, 3,175 tons to the United States, and 1,058 tons to other countries. The next most important article of export is bananas, after which come hides and skins, plants, mother-of-pearl, and caoutchouc. The uncertainty of the coffee crop has led to efforts to develop the culture of bananas and of tobacco, sugar-cane, cacao, and other crops. Rice, Indian corn, wheat, and potatoes are grown extensively. The product of gold and silver in 1888 was 37,496 pesos. The number of vessels that entered in 1887 was 293, of 454,092 tons, belonging mainly to the United States; in 1888 the number was 303.

Railroads, Posts, and Telegraphs.—There was a line of railroad between Limon and Reventazon, 180 miles, in 1888, and a continuation to Cartago, 51 miles, was in progress. The number of letters, newspapers, and other mail matter in 1887-'88 was 2,633,809; the number of telegraph messages, 112,639; length of lines, 600 miles; telegraph receipts, 31,176 pesos.

Finances.—The revenue for the year ending March 31, 1889, was 3,687,594 pesos; the expenditure, 3,476,722 pesos, the principal items being 634,887 pesos for the debt, 439,802 pesos for defense, 430,358 pesos for public instruction, and 417,512 pesos for public works. The estimated revenue for 1889-'90 is 4,287,686 pesos; expenditure, 4,183,798 pesos.

The internal indebtedness of Costa Rica was liquidated in 1887. The foreign debt, which amounted on Jan. 1, 1887, to £2,691,300, with interest undischarged to the amount of £2,119,512, was converted, by consent of the bondholders, into £2,000,000 of bonds bearing 5 per cent. interest from Jan. 1, 1888, and was assumed by the Costa Rica Railway Company.

Public Affairs.—The President of Costa Rica accepted the resolutions in favor of a Central American Union that were adopted at San Salvador in October, 1889, with reservations regarding certain points that were omitted by the conference, viz., provisions for liberty of the press, regular succession of the Executive, and protection of human life. A question that stirred the country more than any other in 1890 was that of religious instruction in the public schools. The educated and progressive part of the community objected to the introduction of religion into the schools, and a bill devoting a large sum to religious instruction was voted down by a large majority in Congress.

CROOK, GEORGE, soldier, born near Dayton, Ohio, Sept. 8, 1828; died in Chicago, Ill., March 1, 1890. He was graduated at the United States Military Academy in 1852, and was assigned to the Fourth Infantry as brevet second



GEORGE CROOK.

lieutenant. In the regular army he was promoted second lieutenant, July 7, 1853, and rose by successive gradations to major-general, April 6, 1888. In the volunteer service he was appointed colonel of the Thirty-sixth Ohio Infantry Sept. 13, 1861; promoted brigadier-general Sept. 7, 1862, and major-general Oct. 21, 1864; and was mustered out of the service Jan. 15, 1866. He was brevetted major-general of volunteers, July 18, 1864, for distinguished services in West Virginia.

Gen. Crook accompanied the Rogue river expedition in 1855, and that to the Pitt river region in 1857. During the latter he was engaged in several actions with the Indians, and received an arrow wound in the leg. In 1858 he marched with his command from Fort Ter-waw to Vancouver, Washington, and after accompanying the Yakima expedition he returned to Fort Ter-waw, and remained there till the outbreak of the civil war. He was then ordered East, and after taking command of the Thirty-sixth Ohio Infantry was sent into West Virginia, where he served till May 1, 1862. On May 23 he participated in the action at Lewisburg, Va., and was wounded. He was in command of the Third Provisional Brigade from May 1, till Aug. 13, 1862; took part in the campaign in northern Virginia in August and September, and in the Maryland campaign in September, and rendered important service at South Mountain and Antietam. After further service in West Virginia, he was transferred to Tennessee in February, 1863; commanded a division at Carthage, Tenn., from March till June; and was given command of the Second Cavalry Division on July 1. He was in command in the advance on Tallahoma, June, July; was present in the action at Hanover Gap, June 26, and the battle of Chickamauga, Sept. 19 and 20; engaged in the pursuit of the Confederates under Gen. Wheeler, Oct. 1-10; was conspicuous in the actions at the base of the Cumberland mountains, Oct. 3, McMinnville, Oct. 4, and Farmington, Oct. 7; and operated from Shelbyville, Tenn., to Rome, Ga., in October and November. From February till June, 1864, he was in command of the Kanawha District, W. Va.; and, besides raiding the Tennessee and Virginia Railroad,

he took part in the actions at Cloyd mountain and New River Bridge. In July and August he commanded the National forces in West Virginia, and was in the engagements at Snicker's Ferry, July 19, and Kernstown, July 24; and while co-operating with Gen. Sheridan in his famous Shenandoah valley campaign, from August till December, was in the battles at Berryville, Opequan, Fisher's Hill, Strasburg, and Cedar Creek. From March 26 till April 9, 1865, he commanded the cavalry of the Army of the Potomac.

After the war Gen. Crook was in command at Wilmington, N. C., till September, 1865. He was mustered out of the volunteer service Jan. 15, 1866, appointed lieutenant-colonel of the Twenty-third Infantry, and assigned to duty among the hostile Indians in Idaho. He first directed a campaign against the Snakes, and, after service on the Retiring Board at San Francisco, was appointed commander of the Department of Arizona, where, in 1872, on the refusal of the refractory Apaches to return to their reservation, he attacked them in the Santo Basin and forced them into submission. He then undertook to teach them the ways of civilization, encouraged them to engage in agriculture, and pledged them his influence as long as they remained peaceable. In 1875 he led a successful campaign against the Sioux and Cheyennes, defeating them in a battle on Powder river, Wyoming. In March, 1876, he gained another victory over them, and in June was again the victor on Tongue and Rosebud rivers. After the massacre of Gen. Custer's command in June, Gen. Crook pursued the hostiles to Slim Buttes, Dakota, defeated them so severely there that in May, 1877, the hostiles surrendered. In 1882 he resumed command in Arizona. In the following spring he made a campaign against the Chiricahua Indians, who had intrenched themselves on the Mexican border. He captured their camp, and then made prisoners of one party after another as they returned from raids, capturing nearly 400. Early in 1886, the Apaches, under chief Geronimo, resumed hostilities. Gen. Crook pursued them to a camp near San Bernardino, Mexico, and demanded an unconditional surrender. In reply they proposed: 1, that they should be sent East with their families for not exceeding two years; 2, or that they should all return to the reservation with their old status; 3, or that they would return to the war-path. Gen. Crook agreed to receive their surrender on the first proposition, and, telegraphing to Washington for further instructions, was notified by Gen. Sheridan, on April 1, that his plans were disapproved, and that he should insist on unconditional surrender, with a pledge to spare their lives. Gen. Crook reaffirmed his belief that his plan was the most likely to succeed, and concluded: "It may be, however, that I am too much wedded to my own views in this matter, and, as I have spent nearly eight years of the hardest work of my life in this department, I respectfully request that I may be relieved from its command." His request was granted, and Gen. Miles was appointed his successor. In 1888 he was appointed major-general, United States Army, and from that time till his death was in command of the Military Division of the Missouri, with headquarters at Chicago.

CUBA, an island in the West Indies, belonging to Spain. The area is 43,220 square miles. The population in 1877 was 1,521,684, having decreased in eight years by 20,500. The Spanish Cortes in 1879 passed a law for the gradual extinction of slavery, and in 1886 abolished slavery absolutely. The capital, Havana, had 198,271 inhabitants at the end of 1887; Matanzas, 87,760; Santiago de Cuba, 71,307; Cienfuegos, 65,067; Porto Principe, 46,641; Holguin, 34,767; Sancti Spiritu, 32,608. The military forces in Cuba are fixed in the budget at 10,000 men. The naval forces maintained there consist of 3 second-class cruisers, 14 gunboats, and 4 steam launches, with 1,233 sailors and 199 marines.

Commerce and Communications.—The foreign trade is largely in the hands of Americans. In 1889 an extra duty of 20 per cent. on all imports into the island went into force, and at the beginning of 1890 a supplementary export duty was imposed on sugar. This is the chief export. The quantity produced in 1888 was 656,719 tons, against 646,578 in 1887, and 731,723 in 1886. The production of molasses in 1887 was 153,015 tons, and in 1888 it was 157,791 tons. About 300,000 bales of tobacco are grown annually. The export from the port of Havana was 182,636 bales in 1888, against 175,364 in 1887. The number of cigars exported in 1888 was 220,000,000, against 162,750,000 in 1887. The import of rice in 1888 was valued at 4,626,000 pesos or dollars; of lard, 3,588,000 pesos; of flour, 3,457,000 pesos, three fifths of it coming from the United States and the rest from Spain. The total value of imports from Spain in 1888 was about \$13,000,000; of the exports to Spain, \$7,000,000. There were no mineral deposits of value known, nor metal mined, except copper, until iron was discovered in large quantities in the mountains of the eastern provinces in 1881. These mines have been worked by citizens of the United States, who have also mined manganese ore with profit. Valuable deposits of asphaltum

have more recently been found, and some Americans have made a beginning in gold-mining.

The number of vessels entered at the port of Havana during 1888 was 1,058, of 1,266,104 tons; the number cleared was 1,121, of 1,330,403 tons. There are in Cuba 2,810 miles of telegraphs and about 1,000 miles of railroads.

Finance.—The income of the central administration is about \$25,000,000 a year, of which nearly half is derived from customs. Of the expenditure, which nearly balances the revenue, nearly half is required for the debt and financial administration, one quarter for military expenditure, and one sixth for the expenses of the Ministry of the Interior. In 1889 there was a deficit of nearly \$3,000,000. The collection of taxes constantly becomes more difficult. The taxation amounts to \$33,000,000 a year, including municipal taxes, while the annual income of the inhabitants of the island is reckoned to be not more than \$80,000,000. The interest on the public debt is more than \$9,000,000 a year. The capital of the debt in August, 1889, was nearly \$186,000,000. In accordance with a royal decree of May 10, 1886, it was consolidated into a 6-per-cent. stock of the total nominal value of 124,000,000 pesos, and this, pursuant to the decree of Nov. 19 of the same year, was converted into a new stock, larger in nominal amount, but bearing a lower rate of interest, which is guaranteed on the customs receipts and all the direct and indirect taxes. To a very great extent the loan is held in Germany. A new conversion into 5-per-cent. bonds was authorized in 1890, and on Oct. 15 40,000,000 pesos were readily taken in exchange for war loans, which bore no guarantee. The energetic General Salamanca, who was expected to reform the abuses in the Cuban administration, however earnest his purpose, was unable to check corruption and introduce discipline. At the time of his death, Feb. 6, 1890, complaints of enormous defalcations reached Spain.

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DAHOMEY, a negro kingdom in Upper Guinea, Africa, having an area of about 15,000 square miles and a population variously estimated at from 200,000 to 500,000. The kingdom, which has existed for nearly three hundred years, was much larger before its strength was crippled by wars with Abbeokuta and other neighboring states. The people are fetish-worshippers. They devote themselves to agriculture, and produce the best palm oil, cultivate Indian corn, and rear cattle. Ivory is obtained in quantities and India-rubber is gathered for export. Whydah, the commercial town, has about 20,000 inhabitants, and Abomey, the political capital, half as many, not counting the military. The King is an absolute despot. His army consists of 15,000 troops and a body guard of 4,000 Amazons armed with muskets and short swords. The warriors of both sexes have been trained by severe discipline to fight in solid ranks unflinchingly. The wholesale massacre of slaves is one of the King's cruel customs. Near the coast the

country is covered with lagoons and marshes. The interior is mountainous.

The French relations with this coast can be traced to the fourteenth century, when navigators landed and built a fort at Whydah, which has been preserved, and toward the end of the eighteenth century had a small garrison. For practical purposes the French interests here began about 1850. A Marseilles trader named Regis sent out a cargo of cotton cloth and beads, was so successful in this venture that he founded a factory in the old French fort, sent ships to the coasts of Madagascar and Zanzibar to gather cowry shells, which passed as money in Dahomey and neighboring lands, and is said at first to have exchanged these for slaves. The firm that he founded, now known as Monte & Fabre, continues to do a large business, though in more legitimate articles of commerce. On July 1, 1851, the first treaty was concluded with the King of Dahomey, by which the title to the fort and a piece of land around it was confirmed and

Frenchmen were permitted to trade in all the towns. They bound themselves to attend the religious festivals that were accompanied with human sacrifices. On May 19, 1868, the King signed a treaty ceding Kotonu to France, and in 1878 a third treaty confirmed this cession, empowered the French to levy and collect duties, and relieved them of the obligation of being present at the barbarous pagan rites. No attempt at an effective occupation even of the coast district was made. The country was considered as a no-man's-land, notwithstanding the French treaties, which were offset by counter-claims advanced by other countries, all of which refrained from establishing their rights by conquest, which would necessitate serious military operations in a difficult and unhealthy country. The English, who blockaded the coast in 1876 on account of the maltreatment of a merchant, long disputed the prior right of France to Kotonu. In 1883 a German force landed to punish the inhabitants of the town for piratical acts. At one time, when looking around for a field for colonial expansion on the west coast, the German Government considered the risks and costs of establishing a colony here. In September, 1885, the Portuguese Government, reviving an ancient claim, announced a protectorate over the Kingdom of Dahomey. In 1888 all rights and responsibilities in respect to the country were disclaimed in a formal renunciation of this protectorate. The French Government was anxious to incur no further sacrifices than were necessary to keep alive its ultimate claims. These were settled for all real intents when treaties of delimitation were made with England and Germany which included Dahomey, with Grand Popo and Porto Novo, in the French sphere of influence. The French part of the coast begins at the limit of the German possession of the Potos, and extends, according to the Anglo-French convention of Aug. 10, 1889, to the point where Adjara creek and the prolongation of its meridian to the coast divide Porto Novo from the English colony of Lagos. This was not enough to satisfy the French traders, whose factories would be worth much more if they stood on French territory. They induced the Government to take possession of the town of Porto Novo, which has 50,000 inhabitants, and to proclaim a protectorate over the kingdom of that name on July 4, 1884. The occupation was effected without a blow, and a French official and twelve Senegalese soldiers were the only representatives of French dominion. The merchants intrigued to set up a new King of Porto Novo in the place of a faithful vassal of the King of Dahomey, and urged the Government to take effective possession of Kotonu and Whydah. Warned by the English traders of Lagos, King Gle Gle, who had been educated in France and had always lived on friendly terms with the French, took the offensive first. He declared that France had no rights in the ceded districts of Dahomey, and that the protectorate over Porto Novo was invalid, as the King of that country was his vassal. Passing from words to deeds, he raided Porto Novo in April, 1889, cut down the palm trees, ravaged and plundered, killed a great number of people, and carried off 1,000 men, women, and children into slavery.

Lient. Jean Bayol, deputy governor of this part of the French possessions, called the Southern Rivers district of Senegal, was sent to Abomey to demand recognition of the French rights, not only in Porto Novo, but in Kotonu and Whydah, and to offer a money indemnity for the King's right to collect taxes in these places. The French officer was treated rather as a prisoner than as a guest, and, with the object of inspiring him with respect for the majesty and power of the savage ruler, he cut off human victims of both sexes were sacrificed with horrible tortures before his eyes till he became sick. Then, suddenly, Gle Gle died and was succeeded by Dongko, who reigns under the title of King Benzein. The envoy's life was no longer safe, and he took the first opportunity to break off negotiations. In his report to the Government he described the horrors that he had witnessed. It was necessary to make a manifestation of military power or leave the country open to the possible interference of other colonizing powers. On April 4 a blockade was proclaimed on the French portion of the Slave Coast to prevent the importation of munitions into Dahomey. The French Government was not tempted to undertake the conquest of Dahomey, but thought it necessary not only to make the position at Porto Novo secure, but to take effective possession of the coast district of Kotonu and Whydah, in the southwest corner of Dahomey, after asserting its claims to these places. Benzein began to collect men for an attack and repeated the demands of his predecessor, which were evacuation of Kotonu, which the French fortified, abandonment of Porto Novo, and surrender of its king.

The Campaign.—Three companies of native sharpshooters were sent in vessels of war from Senegal. The naval forces began operations by bombarding Abomey-Kalavy and other villages from the lagoon that lies between Dahomey and Porto Novo. The military occupation of Kotonu took place on Feb. 17, after a battle in which 60 natives were slain. On March 4, 1890, the morning after re-enforcements were landed at Kotonu, they were attacked by the King's troops, losing 8 dead, whose heads were sent to the King at Abomey. In the mean time the Dahomeyans had besieged Whydah, and the seven French merchants there were enticed out of the fort where they had taken refuge by a Portuguese half-caste named Candido Rodriguez, and dragged off to the King, who kept them as hostages, and so maltreated and tormented them that one or two tried to kill themselves. He threatened to behead them if the French troops advanced. The vessels threw shells into Whydah on April 29 and 30, with the object of securing the release of the French prisoners.

The Dahomeyan army lay encamped before the French works till early in May, when it retreated into the interior. During this period three or four fights took place every week. Most of these were mere skirmishes, in which the savages received two or three volleys and then broke for the trees or the tall grass. Their tactics were to attempt to surprise and surround the French at night or in the early morning. They advanced fearlessly to within 100 yards of the French line, those in the front rank firing their guns, charged to the muzzle with iron balls and

slugs and broken glass, and then passing them back and receiving freshly loaded muskets. The female warriors were much braver and more efficient than the others. They took part only in battles where a large portion of the King's army was taken into action. In the fight of March 4 the Dahomeyans rushed in close order across the open space from their concealment in the palm groves upon the earthworks. The men, who fought nearly naked, were driven back into the woods by a hot fusillade of musketry in their faces and the raking fire of the cannon and grape-shot from the cruiser anchored near the shore. The women, in sleeveless tunics, short skirts, and trousers of blue or white cotton, came on the run over the plain, faltered not when a deadly volley was poured into their compact ranks at 200 yards, reached the fort in spite of the rattling fire of repeating rifles, and began to scale the walls, some falling among the troops, pierced with bayonet wounds. They would have captured the work if other troops, disengaged by the flight of the male warriors, had not come to the support of Lieut. Compérat, the commander, who, with one of his white sergeants, had been wounded by the Amazons, who fired their worthless trade guns as they rushed with wild yells to the assault. The fire of the reinforcements caused them to break and run; yet, as soon as they were out of close range, their savage courage, due in part to alcoholic stimulation, rose again, and they formed for a fresh assault; but their ranks melted under the infantry fire of the strengthened garrison, and before reaching the fort they turned and fled. The troops pursued them into the woods, avoiding the wounded and dying women, who tried to seize and stab them as they passed. The bodies of 200 women were found on the plain, one third of which lay directly under the rampart. On April 20 the Dahomeyans attempted again to crush the French force at Porto Novo in a general battle, in which, as before, the women soldiers bore the brunt of the fighting. The French, to the number of 400, went out to meet them, and, when 6 miles from Porto Novo, were attacked on the open plain at Atchupa by 7,000 men and 2,000 women. Drawn up in a hollow square, with their modern rifles and three canon, they repelled eight furious charges of the enemy, whose old muskets, badly handled, were nearly as useless as their bows and swords. After two hours of sharp fighting the French retreated in good order, and for half the distance to Porto Novo were followed by the Dahomeyans, who left 300 dead on the field. The French loss was 61 killed and wounded. Two weeks afterward the King recalled all his troops, except 1,000 men, and entered into fresh negotiations.

A New Treaty.—On May 2, King Benzein exchanged for hostages held by the French the captive white men, and they returned to Whydah, with the exception of one, a missionary priest, who died from ill usage, bearing a message in which he offered to make peace on condition that Lieut. Bayol's head should be sent to him, and that his officials at Kotonu should be set free and reinstated. On May 12 he sent from his camp at Canna Gunney a letter addressed to President Carnot, in which he defended his right to punish the native ruler of

Porto Novo, who had begun the troubles by massacring Dahomeyans, and demanded as a basis of peace that the French should relinquish all political rights and retire from their occupied positions in Dahomey, in return for which he would grant them, as heretofore, complete freedom of trade. The retirement of Benzein's forces was occasioned by dangers from his native enemies. In June he marched against Egbas, defeating him and taking 1,000 prisoners, suffering a defeat at Ketu, and finally destroying his enemy's army, burning all his villages, butchering the children, and carrying off thousands of men into slavery and of women to be sacrificed. One or two nocturnal skirmishes took place at Kotonu in August. A person named Siciliano, connected with the trading establishments, undertook to bring about a peace. Admiral de Cuverville, commanding the French squadron in the south Atlantic, who directed the political affairs, declined his mediation, fearing that it would lead to new complications, and through another emissary concluded a treaty in September, under which the French continue their occupation of the harbor of Kotonu and are confirmed in the protectorate of Porto Novo, while Whydah is to belong to Dahomey.

DELAWARE, a Middle Atlantic State, one of the original thirteen; ratified the Constitution Dec. 7, 1787; area 2,050 square miles. The population, according to each decennial census, was 59,096 in 1790; 64,273 in 1800; 72,674 in 1810; 72,749 in 1820; 76,748 in 1830; 78,085 in 1840; 91,532 in 1850; 112,216 in 1860; 125,045 in 1870; 146,698 in 1880; 168,493 in 1890. Capital, Dover.

Government.—The following were the State officers during the year: Governor, Benjamin T. Biggs (Democrat); Secretary of State, John F. Saulsbury; Treasurer, William Herbert; Auditor, John H. Boyce; Attorney-General, John Biggs; Insurance Commissioner, Isaac N. Fooks; Chief Justice of the Supreme Court, Joseph P. Comegys; Associate Justices, Ignatius C. Grubb, John W. Houston and John H. Paynter, who died June 21 and was succeeded by Charles M. Cullen; Chancellor, Willard Saulsbury.

Finances.—On Dec. 31, 1888, the balance in the State treasury to the credit of the various funds was \$87,988.04; the total receipts for the year ensuing were \$335,890.14; and the total expenditures \$344,787, leaving a balance on Dec. 31, 1889, of \$79,091.18. The sinking fund is derived from the revenue accruing from the oyster fund. The balance, after deducting the expense of collecting the fund and maintaining the State oyster navy, is applied to the payment of the bonded debt of the State. Among the receipts of the general fund were \$74,799.46 from the tax on railroads, \$24,000 from interest on securities held by the State, \$55,353.56 from clerks of the peace for licenses, \$6,146.05 from the collateral inheritance tax, and \$75,000 from new bonds sold. The disbursements from the general fund included \$10,472 for the executive department, \$36,597.50 for interest on the State debt, \$6,000 for colored schools, \$25,000 for free schools, \$2,400 for militia, \$14,000 for the State Insane Asylum, \$10,900.27 for the encampment of the militia, \$20,142.12 for expenses of the General

Assembly, \$19,223.02 for special allowances by the Legislature, and \$75,000 for redemption of State bonds. From the total receipts of the school fund the sum of \$83,515.38 was distributed to the counties for school purposes as follows: Kent County, \$23,456.52; New Castle County, \$31,692.99; and Sussex County, \$28,365.87. On Jan. 1, 1890, the total bonded State debt was \$899,750 of which \$290,000 became redeemable at the option of the State on and after July 1. The State holds in its treasury securities available to meet this debt valued at \$673,050. No *ad valorem* State tax is levied on property, the revenue being derived from a tax on railroads, licenses, etc.

Education.—Under its new president, and with the aid derived from the United States for the support of an agricultural experiment station, the State College has entered upon a new career of prosperity. There were 90 students enrolled in March of this year, the entering class numbering 44 and being the largest in the history of the institution. For the first time in many years there is no deficit in the finances.

Charities.—At the State Insane Hospital on April 30 there were 145 inmates under treatment—59 white males, 19 colored males, 50 white females, and 17 colored females. The grounds and buildings, formerly used for the county asylum of New Castle County, were purchased by the State in 1889.

Agriculture.—The year 1890 was unfortunate for the agricultural interests. The peach crop, usually a very large source of revenue, was a complete failure, and the yield of apples and pears was disappointing. The yield of wheat was only about two thirds of the average, and the benefit of a good hay crop was destroyed by low prices. The yield of early potatoes was light, while the late crop was almost an entire failure. The crops of corn and oats were not equal to the average.

Population.—The official figures of the national census for this year are compared with similar figures for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Kent.....	32,874	32,664	• 210
New Castle.....	77,716	97,182	19,466
Sussex.....	36,018	38,647	2,629
Total.....	146,608	168,493	21,885

* Decrease.

County Debts.—The total debt of the three counties of Delaware is \$618,400, an increase of 574,400 since 1880. Of this sum \$545,400 is a bonded debt and \$73,000 a floating debt. The county of New Castle bears five sixths of the total debt.

Poll-Tax Decision.—On Jan. 24 the State Supreme Court rendered a decision in the poll-tax case that was argued before it in the preceding June. The contention of the plaintiff was that the provisions of the tax law of 1873, directing the levy court to drop from the assessment list the names of all delinquent poll-tax payers, and not to restore them for a period of twelve months thereafter, was unconstitutional and void, for the reason that, in practice, it disfranchised for one year every delinquent. The

decision of the court, only one judge dissenting, was that the provisions were clearly constitutional and valid. Chief-Justice Conegys, in his opinion, says:

If there was any other motive for adopting it than to secure the better payment of taxes, it does not appear on the face of it, nor are we warranted in referring to it. Taxes being necessary to the support of government, a State has the right to adopt any measures, short of actual disfranchisement, to compel their payment. If the operation of the legislation of 1873 was, *proprio vigore*, to disfranchise a voter by preventing him from paying his taxes as others are obliged to do, there would be force in the argument of the plaintiff's counsel; but as it does not so act, and never at all except as a consequence of his own neglect, which many others in like condition of life do not suffer themselves to be guilty of, it can not be charged to the law that he loses temporarily the privilege of voting, but only to his own inattention to his opportunity to retain it. He has simply omitted a duty he owed to himself and to the public—If such persons can be supposed to be under any obligation to the body politic—and deserves all the consequences resulting from his indifference to his interest. Without it can be shown, which it was not, and can not be (and that fact seemed to embarrass the learned counsel in their elaborate argument), that the legislation of 1873 disfranchises a voter in spite of himself, or takes some advantage of him against which he had no means of protecting himself, it is too much to ask this court to void it as unconstitutional, and a violation of the organic law of this State.

Political.—A State Convention of the Prohibition party met at Dover on May 9, and nominated the following ticket, to be presented to the voters at the November election: For Governor, William T. Kellum; for member of Congress, Daniel M. Green. The usual resolutions in favor of prohibition were adopted.

On June 3 committees from the various farmer organizations—the Farmers' Institute and the Pomona and other granges—met at Dover for the purpose of agreeing upon measures beneficial to the farmers and of making their influence felt in the canvas. The conference resulted in the adoption of the following:

Resolved, That the following kinds of property should be added to that now subject to taxation, to wit: Bonds, mortgages, stocks, and all other investments yielding revenue or profit, and by this enumeration it is not meant or intended to exclude or exempt other property which should be taxed, although not herein mentioned. But all property upon which a mortgage exists shall be relieved from taxation to the amount of the mortgage.

There shall be but one assessment for all kinds of property and one uniform rule of levying taxes and one collector for all kinds of taxes in the same hundred or district.

The allowances to the sheriffs for keeping prisoners should in no case exceed 20 cents per day.

Convicts should be made self-supporting and should be put to work on the roads or public works.

That the public roads should be repaired by letting out to the lowest bidder.

A more stringent law should be enacted to prevent bribery at elections.

That the legislative allowances of late years have been unjust and extravagant, and should be greatly reduced.

Appropriations for military encampments and excursions should be abolished.

The percentage allowed collectors should not exceed 5 per cent.

That the committee of each county be and they are

hereby requested to hold meetings as speedily as possible after the tickets of the political parties are nominated, to consider whether or not the men so nominated are men who, if elected, will represent the interest of the people, and recommend the election of such only as in their judgment will represent the people's interest.

That all petty cases shall be finally decided by justices of the peace with privilege of appeal to the courts in case of dissatisfaction.

The Democratic State Convention was held at Dover on Aug. 12. Its nominees were Robert J. Reynolds for Governor and John W. Cansey for Member of Congress. The platform, on local issues, contained the following:

That we denounce the use of money to control our voters as degrading to the politics of our State, and we urgently recommend legislation to punish and prevent such practices, and to enact the Australian ballot law, or some measure equivalent, as a protection to the free exercise of the privilege of franchise.

That it is the duty of the Legislature to provide for the holding of a convention for the revision and amendment of the Constitution of the State by the light of the experience of the last sixty years.

The Republican State Convention met at Dover on Sept. 9, and nominated Henry A. Richardson for Governor and Henry P. Cannon for Member of Congress. The platform treats of State issues as follows:

That experience has clearly demonstrated that the organic law of this State is in many respects defective, and the calling of a convention, to be held in 1891, is imperatively required.

That the expenses of conducting both State and county affairs have improperly increased, are still increasing, and ought to be diminished, and as fruitful sources of such increase we refer especially to the practice of legislative grants of money for objects of no public utility, to the lengthening of legislative sessions by frequent adjournments without necessity, and to extravagant allowances, particularly by levy courts, resulting in the enormous swelling of county indebtedness.

That the right to vote is inherent in the people. We charge that the Democratic party in Delaware has, by the enactment of the system of assessment and collection laws of 1873, its oppressive and fraudulent administration of that system and its defeat of proper measures, designed and calculated to correct the evils of that system, passed by a Republican House of Representatives at the last session of the Legislature, wrongfully disfranchised large masses of our people, destroyed uniformity and equality of taxation, repudiated the most cardinal principles of popular self-government, brought reproach and disgrace upon our State, and shown itself to be an organized conspiracy against rule by popular majorities.

That our State should be divided into senatorial and representative districts, and Senators and Representatives in the General Assembly should be elected in such districts respectively by the people thereof, and that levy court commissioners in each county should be elected from districts in such manner as to insure just minority representation in the levy courts of the several counties.

That pursuant to the policy of the Republican party in this State as enunciated in its State platform two years ago, we favor the adoption and maintenance of a system of local option.

That the present system of taxation is inequitable and unjust in that it limits the burdens thereof to certain species of property while others are exempt therefrom. And that this injustice and inequality ought to be promptly corrected by the enactment of such a statute as will render moneyed securities subject to a general taxation for public purposes, and require the holders thereof to contribute a fair propor-

tion toward the expenses of government which affords them, as well as others, protection in their property, and thereby correspondingly relieve real estate from the undue proportion of the public burden which it has hitherto borne.

That rigid economy in each of the several departments of the State and county governments is absolutely required. And to this end we believe it would certainly promote the public good if all prisoners in the several jails in the State should be fed by contract awarded to the lowest bidder. And that some employment, which shall not compete with honest labor, should be provided for such prisoners, so that the jails may not be made mere asylums for a class of vagrants whose maintenance therein has become a serious burden to the public.

That such legislation as will amply secure and properly protect our citizens engaged in the oyster and fishing industries of this State in all their just rights ought to be promptly enacted.

Strenuous efforts were made by the Democratic party to regain the supremacy in State affairs which it lost in the election of 1888. To this end internal dissensions were forgotten and all factions united in support of the party ticket. The result was a Democratic victory at the election in November. The official count for Governor showed 17,801 votes for Reynolds, 17,258 for Richardson, and about 140 votes for Kellum. For Congressman, Causey had 17,848 votes; Cannon, 17,180; and Green, about 140. Two thirds of the Senate and the entire Lower House of the General Assembly of 1891 were chosen at the same election. That body will contain in the Senate 5 Democrats and 4 Republicans, and in the House 14 Democrats and 7 Republicans.

DENMARK, a monarchy in northern Europe. The Constitution of July 28, 1866, which restored the charter of June 5, 1849, vests the executive power in the King and his ministers, who are responsible to the Rigsdag, or legislative assembly, which comprises the Landsting, consisting of 12 appointed and 54 elective members, chosen by indirect election, and the Folkething, consisting of 102 members, elected by the direct suffrage of all males over thirty years of age. The Rigsdag meets annually on the first Monday in October. All money bills must be presented first in the popular house.

The reigning King is Christian IX, born April 8, 1818, the fourth son of Duke Wilhelm of Schleswig-Holstein-Sonderburg-Glücksburg. He mounted the throne, by virtue of the treaty of London of May 8, 1852, and of the Danish law of succession of July 31 of the same year, on the death of King Frederik VII, Nov. 15, 1863. The heir-apparent is his eldest son, Frederik, born June 3, 1843. His other children are Alexandra, Princess of Wales; Prince Wilhelm, who was elected King of the Hellenes in 1863 under the title of Georgios I; Princess Marie Dagmar, who is now the Empress Maria Fedorovna of Russia; Princess Thyra, the Duchess of Cumberland; and Prince Waldemar, who has several times been considered as a candidate for the Bulgarian throne. The present Cabinet was first constituted on June 11, 1875. It consists of Jacob Brønnum Scavenius Estrup, President of the Council and Minister of Finance; H. G. Ingwerslev, Minister of the Interior, appointed Aug. 7, 1885; J. M. V. Nellesmann, Minister of Justice and for Iceland; Otto Ditlev, Baron Rosenørn-Lehn, Minister of Foreign Affairs, appointed Oct.

11, 1875; Gen. J. J. Bahnsen, Minister of War, appointed Sept. 13, 1884; Commander N. F. Ravn, Minister of Marine, appointed Jan. 4, 1879; and J. F. Scavenius, Minister of Public Instruction and Ecclesiastical Affairs, appointed Aug. 20, 1880.

Area and Population.—The population of the kingdom on Jan. 1, 1886, was estimated to be 2,108,000. Between 1870 and 1880 it increased 10 per cent. Of the total population 46.9 per cent. were dependent on agriculture, 22.9 per cent. on industry, 6.8 per cent. on commerce, and 2.7 per cent. on seafaring occupations according to the census of 1880. Copenhagen, the capital, had a population, with its suburbs, of 286,900 in 1887. The number of births in 1887 was 69,417; of deaths, 60,645; of marriages, 14,726. The emigrants in 1888, nearly all of whom went to the United States, numbered 8,659, against 8,801 in 1887, 6,263 in 1886, 4,346 in 1885, 6,307 in 1884, and 8,375 in 1883. All but 1 per cent. of the population belong to the Lutheran Church, which is the established religion. Of those who do not one-third are Jews and one-third are Baptists. Children are compelled by law to attend school from the age of seven to that of fourteen.

Commerce and Production.—The total value of the imports in 1888 was 274,401,000, kroner (1 kroner=26 cents), against 250,668,000 in 1887 and 211,613,697 in 1886; the value of the exports was 192,699,000 kroner, against 187,873,788 in 1887 and 166,746,742 in 1886. In the imports in 1887 the class of food stuffs was represented by 88,300,000 kroner, against 73,600,000 in 1886; manufactures by 64,300,000, against 54,800,000; raw materials by 84,000,000, against 69,400,000; and machinery and other means of production by 14,100,000, against 13,800,000 kroner. On the side of the exports food products figured for 139,700,000 kroner, against 124,200,000; manufactured articles for 10,300,000, against 10,600,000; raw products for 25,500,000, against 21,700,000; and means of production for 12,300,000, against 10,300,000. The values of the principal articles of import and export in 1888 were as follows, in kroner:

ARTICLES.	Imports.	Exports.
Colonial goods.....	22,522,698	6,735,888
Beverages.....	4,779,456	2,313,166
Textiles.....	40,014,624	4,450,466
Metal goods.....	24,213,770	8,106,926
Wood and its manufactures.....	14,201,010	8,824,154
Coal.....	18,481,716	1,657,746
Animals.....	4,834,854	29,799,234
Pork, butter, eggs, and lard.....	15,783,480	92,455,704
Cereals.....	29,386,584	15,466,086

Trade has increased in volume as well as in value during the past three or four years. The imports from Great Britain in 1888 were 62,548,128 kroner, against 56,091,612 kroner in 1887, and the exports to Great Britain were 116,126,046 kroner, against 82,079,208. This growth was due to increased exports of pork, bacon, butter, eggs, wheat, and barley. The German imports rose from 90,581,904 to 100,280,700 kroner, while the exports to Germany fell away from 60,147,864 to 35,969,988 kroner, owing in part to restrictions placed by the German Government on the importation of pork and live hogs. Imports from Sweden and Norway amounted in

1888 to 43,467,882, from Russia, to 25,657,146; from the United States, to 9,656,802; from Holland, to 6,401,988; from Belgium, to 5,889,798; from France, to 5,131,188; from the Danish colonies, to 3,321,818 kroner. The exports to Sweden and Norway were 25,589,412, to the Danish colonies 3,781,368, to Russia 3,516,570, to the United States 1,979,136, to France 1,589,886 kroner. Since the introduction of mechanical cream-separators, about 1886, the export trade in dairy products has grown enormously, and instead of exporting grain, as it did formerly, the country imports large quantities of Indian corn and other food products. The exports of butter have risen from 19,000,000 pounds in 1883 to nearly 60,000,000 pounds. The cows are groomed and carded regularly every day, and their fodder is selected with care, including universally a pound of colza cake. The dearthness of Indian corn has led to the more general use of rye, and from this has grown a large new industry, the manufacture of yeast, of which 1,748,396 pounds were exported to Great Britain and other countries in 1888.

Navigation.—The number of vessels that were entered at Danish ports in 1888 was 24,721, with 1,941,820 tons of cargo; the number cleared was 24,352, carrying 474,039 tons. Besides these, 27,237 coasting vessels were entered and 27,880 cleared. The number of vessels registered in Denmark and the colonies on Jan. 1, 1889, was 3,344, of 270,941 tons, and of these 293, of 96,650 tons, were steamers.

Railroads, Posts, and Telegraphs.—Of 1,214 miles of railroads open to traffic, about 1,000 miles are the property of the Government. The postal traffic in 1887 was 42,000,465 letters and cards, 4,392,018 newspapers, and 3,819,344 samples and circulars. The telegraph service of the State in 1888 transmitted 1,469,812 messages, of which 590,858 were internal, 945,824 international, and 33,130 official. The length of the lines at the end of 1888 was 3,674 miles, with 10,280 miles of wire; but of these lines only 2,700 belonged to the State, the rest being the property of the railroad companies.

Colonies.—Iceland, which has its own Legislature, has an area of 39,756 square miles, and in 1880 contained 72,445 inhabitants. A year or two later began an exodus to Canada and the United States that has grown steadily ever since, almost depopulating the northern and eastern districts, where agricultural work is carried on under great difficulties. In 1883 the population was 71,613, and in 1887, when 2,000 persons left the island, it had fallen to 69,224, although the excess of births over deaths was about 640 each year, thus showing a loss in four years of nearly 5,000 persons by emigration. The emigrants settled in the Northwest Provinces of the Dominion of Canada and in the adjacent parts of the United States, and have sent such favorable reports of their new homes that the movement is likely to increase, promoted as it has been by a succession of bad harvests and the destruction of the fishing industry through the competition of foreign steam fishing-boats.

The Danish shore of Greenland has an area that is estimated at 46,740 square miles, and the population is returned as 9,780 souls. The imports from the mother country in 1887 were

valued at 539,000, and the exports to Denmark at 472,000 kroner.

The Danish Antilles, comprising the islands of St. Croix or Santa Cruz, St. Thomas, and St. John, although their total area is only 118 square miles, are exceedingly productive, exporting annually from 12,000,000 to 16,000,000 pounds of sugar and 1,000,000 gallons of rum.

Finances.—The revenue fell from 56,380,909 kroner in 1884 to 51,333,290 in 1888, while the expenditures increased in the same period from 50,198,940 to 59,868,223. According to the budget for 1889-'90, sanctioned in the provisional law of April 1, 1889, the revenue amounted to 54,457,514 kroner, of which 732,151 kroner were derived from state domains, 3,800,939 from interest on assets, 9,632,000 from direct taxation, 2,707,000 from stamps, 1,935,000 from succession and conveyance duties, 2,099,000 from fees, 29,154,000 from customs and excise duties, 900,000 from lotteries, 57,759 from the Faroe islands, 2,157,660 from miscellaneous taxes, and 1,282,005 from the sinking fund and other sources. The budget of expenditure was fixed at 57,251,480 kroner, of which 1,223,240 kroner were appropriated to the civil list, 306,616 to the Rigsdag and Council of State, 7,050,640 to interest and expenses of the debt, 3,408,375 to pensions, 383,256 to the Ministry of Foreign Affairs, 3,388,153 to the Ministry of the Interior, 3,430,744 to the Ministry of Justice, 2,095,137 to the Ministry of Worship and Education, 10,285,916 to the Ministry of War, 6,503,536 to the Ministry of Marine, 3,206,741 to the Ministry of Finance, 96,668 to the Ministry for Iceland, 9,029,758 to extraordinary expenditure, and 6,842,707 to improvement of state property and reduction of the debt.

The reserve fund for sudden emergencies amounted on March 31, 1888, to 17,821,340 kroner. The public debt has been reduced from 203,471,121 kroner in 1881 to 193,159,225 in 1888. The foreign debt, which pays generally 4 per cent., amounted to 13,319,666 kroner. The domestic debt pays as a rule 3½ per cent. interest.

Politics and Legislation.—The conflict between the King's ministers and the people regarding the powers of the Folkething and the responsibility of the ministry has lasted about twenty years, and for nearly half that period constitutional forms have been superseded, legislative progress has been suspended, and all the interests of the country have suffered from the anomalous and arbitrary methods of carrying on the public business. The country had grown so tired of the sterile dispute that in the Folkething there were but 10 left of the irreconcilables who, under Berg's leadership, had braved the Estrup ministry for years, whereas the Moderate Opposition, the party of conciliation, discussion, and compromise, had grown to 64. Of this party of compromise there were some who were prepared to come to an agreement with the Landsthing in regard to the budget, and who in the previous session had voted with the Ministerialists on the budget proposals. Concessions on this point prior to the reconstruction of the Supreme Court and the settlement of the main constitutional questions was not the wish of the leaders of the party, and hence the same tactics were followed in the budget debate as in former sessions. The minister brought in his proposals at the opening

of the session, the discussion was protracted in the Folkething till January, at the last moment the Government presented supplementary estimates, and there was no possibility that the Landsthing could complete its consideration of the budget before Jan. 28, when the Rigsdag would expire by limit of time. There was no intention on the part of the warring politicians that the budget should be regularly voted, nor could the Left be expected to approve the controversial items for the fortification of the capital and the creation of a state police which had just before been condemned anew in the party programme. All other demands were reported favorably by the budget committee, which went even beyond the request of the Government in voting appropriations for improving internal communications. The ministry, arguing from the growth of the party of compromise that the country would come over to its side, clung the more firmly to the policy that the constituencies had five times condemned. On Jan. 3 a royal decree announced the dissolution of the Folkething on the ground that its labors up to that time gave no promise that any business of importance could be concluded before the close of the constitutional period. New elections were ordered for Jan. 21. If the Government party expected to see a turn in the tide of popular opinion it was greatly disappointed. Instead of 28 Ministerialists in the old Folkething, only 23 were elected to the new. Moreover, the party of compromise was reduced to 57 members, and the irreconcilable elements were increased by the addition of 7 members to the Berg group, and by the election of 3 Social Democrats, who were represented in the last Legislature by a single deputy. The growth of the Social Democracy, which received about one quarter of the votes of the entire country, and more than one quarter of those of the rural constituencies of Jutland, was the most noticeable feature of the election.

The Minister of the Interior introduced a bill when the new Folkething resumed the business of the session for constructing a harbor and creating a free port near Copenhagen. This and the project of building a coast railroad from Klampeborg to Helsingør met with the full approval of all parties. The Liberals favored the improvements, not merely on the ground of their utility, but because they were expected to deplete the treasury and leave the Government with no surplus to carry on the fortifications at Copenhagen and defray the other military expenditures that had been persisted in despite the popular condemnation. The Government bills were rejected and the establishment of a free port, on the advantages of which all economical authorities were agreed, was postponed because the ministers proposed to raise a special loan for the purpose, instead of applying the money lying in the treasury. A plan for a sea fort at Copenhagen, armed with 5 pieces of the heaviest ordnance, 12 of smaller caliber, and 13 rapid-firing guns, omitted for the present the metal towers in which, according to the original scheme, the guns were to be mounted. The strengthening of the maritime defenses of Copenhagen, unlike the nearly completed fortifications on the land side, which were condemned by the naval officers and some of the best military authorities, includ-

ing the commander-in-chief of the army, was generally approved by military experts, but not the proposed fort, which is declared to be useless for the purpose of defending the city from bombardment with long-range guns. The Government asked for 9,000,000 kroner, to be distributed over three years. The Folkething, of course, refused to grant the money. The Minister of War withdrew the item from the consideration of the Folkething, only to insert it in the provisional budget, the seventh that has been decreed since the legislative deadlock began. On the final day of the session, March 31, the Landsting, by a majority of 40 to 13, passed resolutions approving all the financial proposals of the Government and throwing on the Folkething the responsibility for the continued absence of a regular budget. The Minister of War was authorized by the Council of State to devote 3,500,000 kroner to the sea defenses of the capital during the financial year 1890-'91. Great irritation was shown by the people at this arbitrary disposition of so large a sum of money. For the proposed free port of entry 400,000 kroner were appropriated. In the beginning of March Count Holstein-Ledreborg, representing the party of discussion, offered a bill for the reconstruction of the Supreme Court, which had been packed with partisans of the Government and had prolonged the conflict by an interpretation of the Constitution opposed to the general sense of the nation. The Ministry did not respond to any of the endeavors to effect a compromise and terminate the long-standing conflict, and Count Holstein-Ledreborg and his friends ceased their efforts, and most of his followers went over to the Berg party.

Ministerial projects for the revision of taxation and the tariff and for invalid and accident insurance for working-men hardly came to legislative discussion. A royal commission to consider the subject of industrial legislation was appointed in May. By order of the ministry all persons suspected of partaking of the doctrines of Socialism or of sympathizing with Socialists or giving their votes for them were dismissed from the railroads, workshops, and other establishments of the state. In taking energetic measures to hold the Social Democracy in bounds the Government could count on the sympathies of a considerable section of its political opponents. There were at the time of the elections more than 80 Socialistic political organizations, 5 Socialist newspapers, and in the capital alone 70 trade unions. A protracted strike of masons occurred in Copenhagen, and in May steam shipping was detained for a time on account of a demand of the seamen for 12 kroner more wages a month.

DISASTERS IN 1890. Perhaps the most noteworthy feature of the year's casualties is found in the unusual frequency and violence of storms on land and sea. Loss of life and destruction of property by these agencies is often unavoidable. By far the greater part, however, of the accidents herewith enumerated might have been avoided by the exercise of reasonable foresight. To carelessness, in one shape or another, is to be ascribed nearly all the railway accidents, the fires, the falling buildings, and the explosions that almost daily carry distress into so many households. The following list is necessarily incomplete. The monthly summaries of

railway accidents are from statistical tables published by the "Railway Gazette" of New York. It will be seen that the casualties given in the summaries are largely in excess of those enumerated in the record. This is due to the intentional omission from the latter of many minor accidents, involving the loss, perhaps, of only one life, and the infliction only of trifling injuries. Verified figures in such matters are unattainable in time for an annual publication.

January 1. Fires: charity school burned in London, 26 boys suffocated; the summer palace of the King of Belgium near Brussels burned. Heavy rains and destructive floods in Indiana.

2. Faulty construction: an amphitheatre gives way at a bull fight near the city of Mexico, several hundred persons hurt. Floods in Queensland, about 25 drowned. Railway collision near Wichita, Kan., 2 killed. Railway bridge breaks near Hallettsville, Texas, 4 drowned, 1 killed, 1 hurt. Shipwreck: the steamer *Persia* goes ashore on the island of Corsica, about 130 lives lost.

4. Avalanche near Sierra City, Cal., 7 killed. Intense cold in the Northwestern States. Destructive rains in the Southwest. Railway collision near Malcolm, Iowa, 3 killed, several hurt. Runaway freight train near Shippens, Pa., 2 killed, 1 hurt.

6. Railway collision near Westmoreland, N. H., 2 killed, several hurt.

8. Fire: St. Louis, Western Union Telegraph office burned; cause, an electric wire.

9. Bridge caisson fills with water near Louisville, Ky., 16 drowned. Faulty construction: a church wall falls in Brooklyn, N. Y., 2 killed, several hurt. Explosion: a Pittsburg furnace, 1 killed, several hurt.

10. Tornadoes in Missouri, Ohio, and Kentucky, 18 killed.

12. Storms and extreme cold in the Northwest, several lives lost in St. Louis and elsewhere.

13. Fire: a grain elevator burned in Baltimore, Md., loss, \$800,000; steamship *Sacrobosco* burned at the same time, 3 lives lost. Tornado at Clinton, Ky., 10 killed, 60 hurt. Destructive storms in central New York.

14. Railway collision near Chesterfield, England, 75 hurt.

15. Earthquake in Austria.

16. Railway collision near Opelika, Ohio, 3 killed.

17. Railway collision near Winton Place, Ohio, 5 killed, 4 hurt.

18. Disastrous gales on the north Atlantic and along the British Islands. Much damage to shipping, 3 men killed by explosion on British steamer *Catalonia*.

19. Steamer sinks in the Mississippi, 4 lives lost.

21. Train derailed near Galveston, Texas, 8 hurt.

22. Explosion: natural gas in Pittsburg, 1 killed, several hurt.

23. Explosion: fire-damp in a colliery near Pontypool, England, 5 killed.

24. Explosion: natural gas in Columbus, Ohio, 3 killed, many hurt. Snow blockade begins on the transcontinental railroads. Explosion of steam gauge on British steamer *Sardinian*, 3 killed.

25. Railway collision near Camphill, Ala., 1 killed, 7 hurt.

26. Fierce storm along the British Isles. Many shipwrecks, and several lives lost.

27. Train derailed near Carmel, Ind., 6 killed, 26 hurt.

28. Two Mississippi steamers lost: the *Ohio* sinks, the *De Soto* is burned. Several members of a surveying party perish from exposure in Marble Cañon, Col. Violent hurricanes and rains in different parts of the northern hemisphere. Railway collision near Owego, N. Y., 6 hurt.

30. Train derailed by a cow near Seymoursville, La., 2 killed, 3 hurt.

31. Influenza: the epidemic was so prevalent dur-

ing the month that it sensibly increased the death rate, and interfered with business all over the Northern States.

Summary of railway accidents for January: 76 collisions, 89 derailments, 6 miscellaneous; total, 171. Killed: 51 employes, 15 passengers; total, 66. Hurt: 123 employes, 102 passengers, 2 trespassers; total, 227.

February 1. Explosion: Plymouth, Pa., 6 killed, several hurt. Railway collision near Big Spring, Va., 2 killed. Fire: Boston, 9 killed, 10 hurt, some fatally. Railway bridge breaks near Cascade Locks, Ore., 9 killed, 12 hurt.

3. Fire: Washington, D. C., house of Secretary Tracy burned, 3 lives lost. Railway bridge breaks near Peoria, Ill., 3 killed.

4. Cloud-burst on Yangtze river, China, about 100 drowned.

5. Destructive floods in Oregon, business practically suspended in Portland for several days. Fire: Jersey City, 40 families homeless.

6. Explosion: coal mine, Aberystwyth, Wales, 190 killed. Railway bridge near Vincennes, Ind., carried away by a flood; train runs into the gap, 2 killed, 2 hurt. Train derailed near Hinton, W. Va. Telegraph office knocked into the river, 3 drowned.

7. Violent storm with wind, hail, and snow in western Pennsylvania, much damage done. Slight earthquake in New Jersey. Land slides in southern Oregon. Railroad collision near Dermot, Ark., 3 killed.

8. Fire: Paterson, N. J., loss, \$150,000. Train derailed near Glade Spring, Va., 1 killed, 5 hurt.

9. Train derailed near Pembroke, Va., 2 killed, 1 hurt. Fire: Paris, the palace of Marie de Navarre.

10. Many oystermen wrecked in Chesapeake Bay.

12. Railway collisions: near Coaling, Ala., 1 killed, 13 hurt; near Placerville, Cal., 3 killed.

13. Locomotive boiler bursts near Douglass, Pa., 2 killed, 3 hurt.

14. Fire: University of Toronto, Canada, burned. Drowned: a wedding party of 10, near Pontivy, France.

15. Railway collision near Melville, Tenn., 2 killed, 1 hurt.

17. Shipwreck: British steamer Duburg, in the China Sea, 400 lost.

18. Railway collision near Bairdstone, Ohio, 3 killed. Shipwreck: Steamers Coral Queen and Brinjo in collision, about 25 lives lost. Colliery explosion near Decize, France, 43 killed, 8 hurt.

19. Shipwreck: British steamer Highgate sunk in collision off Wales, 6 lives lost.

21. Shipwreck: British ship Sovereign, about 30 lives lost.

22. Explosion: a steam boiler in Omaha, 2 killed, several hurt. Railway accident: at Galansville, Va., 2 killed, 6 hurt. Runaway horse at Elizabeth, N. J., 2 women killed.

23. Faulty construction: storage reservoir gives way on Hassayampa river, Arizona, 40 drowned, \$1,000,000 damages. Fire: on a New York canal boat, a mother rescues her five children, all badly burned, 1 dies.

26. Train derailed near Roanoke, Va., 11 hurt.

Summary of railway accidents in February: 64 collisions, 55 derailments, 9 miscellaneous; total, 128. Killed: 50 employes, 3 trespassers; total, 53. Hurt: 111 employes, 65 passengers, 4 trespassers; total, 180.

March 1. Destructive flood in the Ohio river. Shipwreck: British steamer Quetta goes ashore in Torres straits.

2. Snow-storms on the north Atlantic coast from Maine to Virginia.

3. Fire in colliery near Wilkesbarre, Pa., 8 lives lost.

5. Train derailed near Washburn, Minn., 3 killed.

6. Heavy wind and snow in the Middle and Eastern States and killing frosts in the South. Railway collision near Bayview, N. Y., train parts and the two sections crash together, 6 killed, 17 hurt.

7. Floods of unusual height in all the Western rivers.

13. Explosion: dynamite near Rockville Center, L. I., 2 killed, 6 hurt.

14. Land slide: near Charleston, W. Va., 2 killed. Train derailed by fallen boulder near Black Hand, Ohio, 1 killed, 7 hurt.

15. Bridge breaks at Glens Falls, N. Y., several hurt. Land slide: Warren Hill, N. Y., 3 killed.

16. Railway collision near Inland, Neb., 2 killed.

17. The Mississippi bursts its levees in several places. Drowned: 2 students of Yale College while sailing near New Haven. Fire: Indianapolis, 12 killed by falling walls.

19. Heavy snow-storm on the north Atlantic coast.

21. Broken trestle near Cordova, Ala., 1 killed, 6 hurt.

22. Floods in the Ohio river. Much damage from floods in Italy. Railway collision near Portage, N. Y., 4 killed, 5 hurt. Train derailed near Terra Cotta Junction, Kan., 10 hurt.

23. Floods unabated in the Western rivers.

24. Railway collisions: near Kings Mountain, N. C., causes explosion of gasoline tank car, 3 killed; and near Nashville, Tenn., 2 killed, 2 hurt.

25. Train derailed near Herson, Montana, 1 killed, 7 hurt.

26. Additional breaks in the Mississippi levees, much distress and many fatal accidents.

27. Tornadoes: in Kentucky, Illinois, Indiana, and Tennessee. At Louisville, Ky., a path 1,000 feet wide is cut through the city, about 100 killed, 500 to 500 hurt. Many more lives lost in small towns in the tornado track.

29. New crevasses on the Mississippi. The Yazoo delta flooded.

Summary of railway accidents for March: 67 collisions, 93 derailments, 11 miscellaneous; total, 171. Killed: 35 employes, 7 passengers, 2 trespassers; total, 44. Hurt: 95 employes, 67 passengers, 3 trespassers; total, 165.

April 2. Colliery explosion at Nanticoke, Pa., 3 killed, 6 hurt.

3. Train derailed near Shaw, W. Va., 1 killed, 5 hurt.

4. Train derailed near St. Charles, Mo., 15 hurt. Violent rain and wind in the Mississippi valley, much damage to property.

5. Fresh crevasses open in the Mississippi levees. A yacht upsets off Toronto, Canada, all hands lost.

6. Land slide near St. Johnsville, N. Y., 4 killed.

8. Derrick falls at West Point, Ky., 4 killed. Wind and hail damage property in the West.

9. Tornado in Ohio, Illinois, Pennsylvania, and Virginia, 12 killed, many hurt, and much property destroyed. Destructive floods in west Pennsylvania.

10. Shipwreck: collision, steamships Avoca and North Cambria, off the English coast.

14. Fires: Des Moines, Iowa, Gilbert Starch Works burned, loss, \$100,000, 3 killed; gas works burned in Madrid, Spain.

15. Shipwreck: steamship Shakarah; cargo total loss, value \$400,000.

17. Fire at Orianenburg, Russia; the imperial palace burned, 7 killed.

19. Railway collision near Barnesville, Ohio, 1 killed, several hurt.

21. Train derailed near Hibbard, Mo., 7 hurt.

22. Levees break in the vicinity of New Orleans, La., several drowned, many houses swept away.

23. Tornadoes in New Hampshire and Texas.

24. Earthquake on the Pacific coast. Fire in a silk mill at Catasauqua, Pa.; falling walls kill 4, hurt 15. The Mississippi continues to burst its levees.

25. Cloud-burst at Gainesville, Texas, much damage done.

27. Hail in Baltimore, nearly all exposed windows broken.

28. Earthquake at Lisbon, Spain. Runaway railway train near Staunton, Va., 1 killed, 8 hurt.

29. Fire: steamer H. B. Plant burned on St. Johns river, Fla., several lives lost.

Summary of railway accidents in April: 64 collisions, 67 derailments, 4 miscellaneous; total, 135. Killed: 13 employés, 2 passengers. Hurt: 81 employés, 59 passengers; total, 140.

May 4. Fire: 22 business houses burned in Gilboa, N. Y.

5. Train derailed near Butte, Montana, 3 killed, 1 hurt.

6. Tornado: Salt Creek, Texas, almost destroyed, many killed. Fires: Singer Sewing Machine Works burned, Elizabeth, N. J., 3,500 out of work; Longue Point Insane Asylum, Canada, about 100 lives lost.

7. Railway collision near Allentown, Pa., 2 killed, 7 hurt.

10. Storms of great violence at the West, many killed, 19 dwelling houses wrecked at Akron, Ohio.

11. Tornado in Kansas, several killed. Fires: Government property burned at Willet's Point, N. Y.; a large part of Elliotville, N. Y., burned. Floods in the river Darling, Australia. Locomotive boiler bursts at Buffalo, N. Y., 2 killed.

12. Train derailed near Clayton, Mo., 2 killed, 1 hurt.

13. Locomotive boiler bursts near Shamokin, Pa., 3 killed. Explosion of balistite near Turin, Italy, 9 killed.

17. Train derailed near Danville, Ky., 3 killed. Explosion: steam boiler bursts at Marseilles, France, 3 killed.

18. Explosion: powder magazine in Havana, 34 killed, about 100 hurt. Shipwreck: steamer Harold founders off the Irish coast.

20. Heavy storms in the North Atlantic States. A dam gives way in Maine, many houses unroofed. Train derailed near North Stratford, N. H., 2 killed. Railway collision near Elizabeth Furnace, Pa., 1 killed, 2 hurt.

23. Railway collisions: near South Lyme, Conn., 1 killed, 3 hurt; near Sheffield, Mo., 8 hurt.

24. Rain, hail, and wind of destructive violence in many States. At Lucas, Ohio, the storm exploded dynamite, 2 killed, 25 hurt. Earthquake in the Mohawk valley. Railway collision near Troy, Ill., 1 killed, 4 hurt.

25. Floods in Morocco, many lives lost. Train derailed near Paola, Kan., 2 killed, 2 hurt.

26. Storms in Germany, 5 killed by lightning, 16 drowned. Train derailed near Soldier Summit, Utah, 6 men badly hurt by jumping.

30. Open railway drawbridge near Oakland, Cal., engineers "skylarking." 13 passengers drowned, engine men save their lives by jumping. Faulty construction: dam gives way on Sevier river, Utah, large damage to farms.

31. Fire: "Summer Palace" burned at Fort Worth, Idaho, 1 killed, many hurt.

Summary of railway accidents in May: 63 collisions, 56 derailments, 5 miscellaneous; total, 129. Killed: 43 employés, 19 passengers, 3 trespassers. Hurt: 102 employés, 36 passengers, 2 trespassers; total, 140.

June 3. Storms devastate wide tracts in Illinois, Iowa, and adjacent States. Tornado in Bradshaw, Neb., 15 lives lost.

4. Railway accident at grade crossing, Newark, 1 killed, 2 hurt, probably fatally.

6. Train derailed near Rockford, Ill., 5 killed, 3 hurt. Heat and lightning end many lives in the Northern States. Train derailed near English, Ky., 11 hurt.

8. Steamer City of Rome runs upon Fastnet Rock, bow stove in.

9. Railway collisions: near Oakfield, Teun., several hurt; near Warrenton Mo., 8 killed, 11 hurt.

10. Shipwreck: British bark Singapore, on Cape Corientes, 6 lost.

11. Tornado in Illinois. Fires in the Ural mines, Russia.

13. Cloud-burst in Kentucky, several lives lost.

14. Train derailed near Marshall, N. C., 1 killed, 11 hurt. Nitro-glycerin explodes near Toledo, Ohio.

16. Train derailed near Kerrville, Tenn., 2 killed,

1 hurt. Fire-damp explosion near Hill Farm, Pa., about 40 killed.

17. Runaway railroad train near Melrose, N. C., 3 killed, 5 hurt.

19. Railway collision near Rushville, Mo., 1 killed, 5 hurt. Destructive floods in New York and Pennsylvania.

20. Railway: wreck near Childs, Md., 2 killed, 13 hurt, among them Bishop Keane, of Washington; collision near Buffalo Mills, Pa., 1 killed, 5 hurt. A tornado near Cornell, Ill., demolishes buildings and injures many people. Severe storms elsewhere in the North and West.

21. Train derailed near Island Park, Iowa, 14 hurt. A pleasure boat goes over Niagara, 1 or more lives lost. Tornado in Illinois, many lives lost.

22. Railway collision near Calira, Ohio, 1 killed, 3 hurt.

23. Tornado: Pleasanton, Neb., demolished, several hurt. Electric storm in Omaha, 2 killed, several hurt. Fire: Port de France, Martinique, 5,000 people homeless.

24. Train derailed near Lawrence, Kan., 7 hurt.

25. Lightning strikes a church at Harlem, N. Y., destroys another at New Rochelle, and a third is burned at Ashfield, Conn. A foot bridge gives way at St. Jean, France, hundreds of persons fall into the sea, many drowned. Railway collision near Parsilla, Ind., 2 killed.

26. Boiler bursts at Ithaca, Mich., 3 killed. Train derailed near Josephine, Ala., 2 killed.

27. Fire: business parts of Carbon, Wyoming, burned, loss, \$100,000. Excessive heat in the West, several deaths from sunstrokes.

28. Train derailed near Joliet, Ill., 2 killed, 7 hurt. German steamer Prins Frederiek sinks, 1,000,000 guilders in specie on board. Train derailed near Nevada, Mo., 1 killed, 27 hurt.

29. Explosion: gasoline stove at Hutchinson, Kan., 2 killed.

30. Train derailed near Drummond, Montana, 1 killed, 12 hurt. Train derailed near Josephine, Ga., 3 killed. Explosion: at Elmira, N. Y., cause, a lighted lantern and "Japan dye," several hurt, building burned. Fires: distillery at Louisville, Ky., loss, \$150,000; also oil refinery in Louisville, several severely burned.

Summary of railway accidents in June: 64 collisions, 67 derailments, 6 miscellaneous; total, 137. Killed: 41 employés, 14 passengers, 3 trespassers. Hurt: 98 employés, 153 passengers, 2 trespassers.

July 1. Intense heat causes many deaths in the Northwestern States. Fires: in Troy, Ala., opera house burned, loss, \$100,000; in Danvers, Mass., Peabody Institute burned. Earthquake in California.

3. Cloud-burst in Texas, considerable damage.

4. Fire: Flint Mill, Columbia, Pa., \$20,000 loss.

Shipwreck: British steamer Regius sunk by collision near Calcutta.

5. Destructive storms in New Jersey and the Ohio valley. Collision of excursion steamers in Hell Gate, New York harbor, several hurt. Railway: collision near Bayview, Mich., 10 hurt; grade-crossing accident, Louisville, Ky., 3 killed, 9 hurt. Explosions: powder at Tower City, Pa., 6 hurt, and at Scott Haven, Pa., 7 hurt, 4 perhaps fatally.

6. Railway: collision near Lucine Siding, Mo., 8 hurt; two trains derailed by locusts in Colorado, 3 killed, 15 hurt.

7. Electric storm, Fargo, N. D., houses destroyed. Passenger train overturned bodily, 9 killed, 19 hurt. Fire: Evansville, factories and stove works burned, loss, about \$160,000. Train derailed near Maneti, Ill., 1 killed, 5 hurt. Wind: custom house and other buildings damaged in New Orleans.

8. Heat: many deaths from sunstroke. Railway collision near Clear Creek, Ala., 5 killed, 1 hurt. Giant powder explodes in Milton, Utah, freight house destroyed. Earthquake in Wyoming, with outburst of new crater geysers.

9. Fires: Roseville, Pa., almost destroyed; at Har-

mony, Ky., 3 killed. Violent wind storm at Cleveland, Ohio. Train derailed at Sibley, Ark., 4 killed, 10 hurt. Steam yacht upset at Rouse's Point, N. Y., 3 drowned. Hurricanes at Muscat, Arabia, several hundred lives lost.

10. Fire: cotton-seed oil works burned at Atlanta, Ga., loss, \$100,000.

11. Explosion: on steamer at Chicago, 15 killed; and in bottling works, New York, 3 killed. Fires: brewery burned in Philadelphia, loss, \$100,000; 250 houses burned at Walden, Russia, 7 lives lost. Train derailed by exploding powder near King's Mills, Ohio, 9 killed, 32 hurt, 3 perhaps fatally. Drowned: at Dartmouth, N. S., 6 persons.

13. Hurricane near St. Paul, Minn., total loss of life more than 100.

14. Accidental poisoning: 150 excursionists made ill by drinking water from an old well near Solon, Iowa. Fire: Sherman, N. Y., damage, \$50,000. Railway collisions: Dodge City, Kansas, 3 killed; Chillicothe, Ohio, 3 killed; Smithville, Ind., 10 killed.

15. Epidemic of typhoid at Manor, Pa., 200 persons ill, average of 4 deaths daily for two weeks. Yacht Marion, of Boston, strikes a rock and sinks, 3 drowned. Railway collisions: near Rochester, N. Y., 2 killed; near Hartford, Md., 2 killed. Fire in Constantinople, estimated loss, \$5,000,000.

16. Tornadoes in Minnesota and Wisconsin. Fires: in Brockton, Mass., the town nearly destroyed, cause, careless painters in a church spire; in Valparaiso, Ind., 4 lives lost.

17. Violent wind and hail in Pennsylvania and New Jersey, several lives lost. Railway: collision near Decatur, Ill., 2 killed; runaway train near Laura Junction, New Mexico, 2 killed, 2 hurt. Lightning at Winnipeg, Manitoba, 3 killed.

18. Steamboats in collision near Alexandria Bay, 5 drowned. Fire: warehouses in Liverpool, England, loss, \$300,000.

19. Railway collision near Cook's Falls, N. Y., 1 killed, 3 hurt. Explosion in a foundry, New York, 16 men severely burned. Wind destroys two business blocks and several dwellings in Pacific Junction, Iowa.

20. Fire: machine shops in Paterson, N. J., \$150,000 lost.

21. Railway bridge washed away near Limon, Cal., 1 killed, 13 hurt. Fires: grain elevator burned at Binghamton, N. Y.; brick block in Greencove Springs, Fla., loss, \$45,000.

22. Tornado in North Dakota, 7 killed. Fires: in New York, 1 woman killed; and a mill in Alleghany, Pa., loss, \$75,000. A hurricane wrecks Slonni, Russia, 19 killed.

23. Cloud-burst in Grand Cañon, Col. Boiler bursts in North Jackson, Ohio, 2 killed, 1 hurt. British steamer Egypt burned at sea, no lives lost. Shipwreck: lost at sea, American schooner, William Rice, 16 lives lost.

24. Powder mill explodes near Paterson, N. J., 2 killed.

25. Fire: Edwardsville, Pa., loss \$17,000. Destructive rains in France.

26. Tornado in South Lawrence, Mass., cuts a track 200 feet wide through the town, kills 9 people, injures about 40, destroys much property. Railway: accident near Grafton, W. Va., 5 killed; collision near Tigerton, Wis., 2 killed, 4 hurt.

27. Fire in Wallace, Washington, town nearly consumed, loss, \$400,000.

28. Steamers Virginia and Louise in collision in Chesapeake Bay, 3 killed, 3 hurt, 10 missing.

29. Railway: 3 children killed on a trestle near Patterson, N. J. Supposed incendiary fire: Cale, Ind., 4 killed.

30. Fire: Seneca Falls, N. Y., loss \$700,000. Destructive floods in Austria.

31. Railway collision near Germyn, Pa., 4 killed. Tornado at Wiers, N. H. Steamer Obdam sinks French fishing bark on the "Banks," 4 lives lost. Fire: Braddeck, Pa., 38 houses burned.

Summary of railway accidents in July: 84 collisions, 59 derailments, 6 miscellaneous; total, 149. Killed: 47 employees, 13 passengers, 10 trespassers; total, 70. Hurt: 116 employees, 97 passengers, 36 trespassers; total, 249.

August 1. Four hundred deaths from cholera in Mecca. Many fatal cases of sunstroke reported. Two persons killed by train near Magnolia, N. J. Fire: mills burned at Canonchet, R. I., loss \$40,000.

2. Lightning: 2 men killed near Hamilton, Canada. Sixteen deaths by drowning reported in various parts of New England, mainly due to bathing and boating accidents.

3. Railway collision near Guthrie, Ind., 4 killed, 8 hurt. Fires: Farina, Ill., 2 blocks destroyed; in Danville, N. Y., paper mill burned, loss, \$150,000; insurance, \$100,000; in What Cheer, Ind., \$100,000 damages estimated. Collision near Hannibal, Mo., 3 killed, 6 hurt. Heavy damages from storms in Minnesota and Manitoba. Trains in collision near Bedford, Ind., 3 killed, 6 hurt.

4. Lightning: 2 young women killed in Prince George County, Va.

5. Explosion in coal mine at Carbone, Washington, 2 killed.

7. Explosion of gas in Norwood, Ohio, 2 killed. Fire: Murray Hall Hotel burned at Pablo Beach, Fla.

8. Railway collision at Howe, Texas, 2 killed, several hurt. Violent thunder storms in northern Wisconsin. Railroad buildings at Three Lakes struck by lightning and destroyed. Much damage elsewhere.

11. Railway collision near Fishers, N. Y., 3 killed. A destructive storm on Long Island Sound. Cloud-burst at Boulder in the Rocky mountains, 2 drowned. Explosion: natural gas near Waldron, Ind., 10 acres of land blown into the air.

12. Fires: at Dayton, Washington, loss, \$85,000; and Greenville, Miss., loss, \$60,000.

13. Destructive floods in Styria. Railway collision at Duckers, Ky., 1 killed, 7 hurt. Train kills 2 persons at Orange, Mass.

14. Fires: at Louisville, Ky., 25,000 barrels of whisky burned; at Guilford, Md., cotton mill burned, loss, \$35,000; at Bellaire, Ohio, factory burned, loss, \$50,000. Explosion in soapfactory, Providence, R. I., 12 hurt. Many drowning accidents. Railway collision at Castle, Wyoming, 1 killed, 4 hurt.

15. Railway collisions: near Alton, Ill., 3 killed, 14 hurt; and near Augusta, Mich., 2 killed, 7 hurt.

16. Clay bank caves in at Bordentown, N. J., 3 killed.

17. Railway: grade-crossing accident near Rochester, N. Y., 3 killed.

18. Train derailed near Barcla, Cal., 7 killed, 14 hurt. Fires: iron works at Steubenville, Ohio, loss, \$100,000; and Winona, Ill., loss, \$30,000.

19. Train derailed near Quincy, Mass.; cause, a track-jack left near the rails, 20 killed, 31 hurt. Hurricane in and near Wilkesbarre, Pa., 200 houses wrecked with other property, 15 killed, many hurt. Train derailed near Port Henry, N. Y., 2 killed, 1 hurt. Collision near Garrison, Montana, 1 killed, 8 hurt.

21. Wind: wall blown down in Philadelphia, 4 killed, several hurt. Fire: Park Hotel, Thousand Islands, with many cottages.

22. Runaway train at Summit, Cal., 2 cabooses and 18 cars wrecked, snowsheds damaged, station house knocked down mountain-side, 4 killed; cause, brakes left unfastened. Another runaway train near Reading, Pa.; brakes failed, 4 killed, 14 hurt. Train derailed near Lyons, Col., 2 killed, 2 hurt. Collision at sea, British steamer Redbrook and American steamer Amérique, 3 drowned.

23. Scaffold falls in Baltimore, 3 fatally hurt.

24. Fire: Peoria, Ill., wagon works burned, loss, \$60,000.

26. Fires: Chicago, McVickar's Theatre burned, loss, \$200,000. Tokay, Hungary, nearly destroyed. Destructive hurricane in Perugia, Italy.

27. Locomotive boiler bursts near Mansfield, Ohio, 2 killed.

28. Fire: Keneshma, Russia, loss, \$2,000,000.
 30. Floods on the Rhine, many persons drowned.
 31. Yacht upsets near Gloucester, Mass., 2 drowned.
 Railway accident at grade crossing, Cleveland, Ohio, 3 killed.

Summary of railway accidents in August: 65 collisions, 82 derailments, 11 miscellaneous; total, 178. Killed: 65 employes, 30 passengers, 5 trespassers; total, 100. Hurt: 196 employes, 92 passengers, 4 trespassers; total, 292.

September 1. Fires: Oxford, Iowa, nearly destroyed; Wolford House burned, Como, Cal., 3 killed. Explosion in a mine in Gallia, 80 killed.

2. Train derailed near Eagle Grove, Washington, 2 killed, 16 hurt. Fire: town of Cocoa, Fla., burned. Sloop Petrel upset near San Diego, Cal., 6 drowned. Scaffold falls in New Orleans, 3 killed. Shipwreck: Steamer Portuense founders near Anegada, West Indies, supposed loss, 10.

3. Fire: Brooklyn, N. Y., Wallabout Market burned, loss, \$200,000; Hliawatha, Kan., loss, \$150,000. Flood: Moldau river, Austria, 19 drowned at Prague.

4. Explosion in coal mine, Edwardsville, Pa., 3 killed. Europe: widespread damage by floods; bridge falls at Prague, Austria, 30 drowned. Railway accident near Calais, France, 4 killed.

5. Railway collisions: near Howards, N. Y., 3 killed; and near Caney, Indian Territory, 5 killed (4 tramps), 1 hurt. Fire: Philadelphia, loss, \$150,000. Explosion: dynamite at La Rochelle, France, 10 killed, many hurt.

6. Railway: collision, South Norwalk, Conn., 7 hurt; tramcar run down by a locomotive in Cleveland, Ohio, 1 killed, 11 hurt; similar accident in Lexington, Mo., 3 fatally hurt. Destructive storms in West Virginia and North Dakota. Premature explosion of a blast in Spokane Falls, Washington, 18 killed, 27 missing.

7. Railway collision near Florence, Col., 5 killed, 33 hurt.

8. Railway collision near Littleton, W. Va., 2 killed, 5 hurt (3 fatally).

12. Destructive floods in nearly all the Middle, Eastern, and Southern States.

13. Tree falls on excursion train near Lead City, S. D., 3 killed, several hurt.

14. Fire: Lynchburg, W. Va., Western Union Telegraph building burned.

15. Shipwreck: Schooner Comarade lost in Lake Superior with 8 men. American ship Hartlepool dismasted at sea, 12 men swept overboard.

16. Railway collision near Vicksburg, Miss., 2 killed. Lightning kills 2 men in Provincetown, Mass. Fires: in Salt Lake, Utah, 2 killed; in Alhambra Palace, Spain, damage, \$250,000. Shipwreck: an Austrian man-of-war founders in the Black Sea. Explosion in Rhenish Prussia, 25 miners killed.

17. Broken rail, near Goldens, Ark., 15 hurt. Disastrous floods in China and Japan.

18. Tornado near Manning, Ohio, 2 killed. Train derailed near Carrollton, Mo., 2 killed, 2 hurt.

19. Train derailed near Shoemakersville, Pa., 22 killed, 30 hurt. Fire: Whitehall, Mich., 30 buildings burned, loss, \$100,000. Shipwreck: Turkish man-of-war Ertogroul founders, 587 lives lost.

21. Burning railway trestle breaks near Neoga, Iowa, 3 killed. Collision near Hawthorne, Ill., 4 killed, 8 hurt.

22. Railway collision near Forest Park, Mo., 5 killed, 13 hurt.

23. Locomotive boiler bursts near Sherman Heights, Tenn., 2 killed. Earthquake in South Carolina. Fires: in Palmer, Mass., loss, \$35,000; in Bayonne, N. J., oil refinery, loss, \$250,000; in Colon, Isthmus of Panama, town nearly destroyed. Heavy floods in France.

24. Explosion: Newcastle, England, 12 fatally hurt.

27. Railway collision near Waucauga, Idaho, about

20 killed. Bridge breaks near Kovno, Poland, about 400 Russian soldiers drowned.

28. Fires: Chicago, Fowler Bros. packing house, loss, \$700,000; Clarkesville, Tenn., damage, \$85,000. Railway collision: Tenino, Washington, 2 killed.

30. Extensive forest fires in South Dakota.

Summary of railway accidents in September: 124 collisions, 120 derailments, 10 miscellaneous; total, 254. Killed: 73 employes, 41 passengers, 13 trespassers; total, 127. Hurt: 164 employes, 172 passengers, 2 trespassers; total, 338.

October 2. Fire: Sidney, New South Wales, alleged loss, \$7,000,000.

3. Fire: Marlborough, Mass., 2 killed. Shipwrecks in the North Sea, 5 vessels lost.

5. Fires: natural gas at Johnsonburg, Pa., town nearly destroyed; Dubuque, Iowa, 3 killed. Train derailed near Olympia, Ky., 20 hurt.

7. Explosion: powder works near Wilmington, Del., 12 killed, about 40 hurt, several severely. Train accident near Sargent, Col., 1 killed, 11 hurt.

8. Locomotive boiler bursts near Mexico, N. Y., 1 killed, 2 hurt.

9. Explosion: Rosario gold mine, Cal., 10 killed. Fire: Pittsburg, Pa., Academy of Music burned. Shipwreck by collision, Portuguese steamer sunk, 4 lives lost.

10. Explosion: Bourges, France, 10 killed.

12. Fire: Chicago, a hotel burned, 4 killed.

13. Fire: London, a factory burned, 11 killed, many hurt.

14. Railway collision near Zanesville, Ohio, 4 killed, 2 hurt. Fire: Fairport, Ohio, \$75,000 damage. Explosion: giant powder in a railroad tunnel near Leadville, Col., 2 killed, 8 badly hurt.

15. Railway collision near Walpole, Mass., 1 killed, 13 hurt. Falling rocks: at Iron Mountain, Mich.; and at Audenried, Pa., 6 killed, others badly hurt.

16. Coke-dust explosion: Pittsburg, Pa., 2 killed, several hurt. Fire: Syracuse, N. Y., Leland Hotel burned, 5 killed, 15 hurt, 2 missing, loss, \$200,000.

17. Heavy gale on New England coast, much damage to shipping. Fire at Lacrosse, Ind., many thousands of tons of stacked hay burned.

19. Railway collision near Columbus, Ohio, 2 killed. Falling derrick: Chicago, 2 killed, several hurt.

20. Locomotive boiler bursts: Pittsburg, Pa., 2 killed, 5 hurt. Grade-crossing accident: Centerville, Iowa, 3 killed. Fire: St. Louis, estimated loss, \$425,000.

21. Railway collisions: Machias, N. Y., 9 hurt; Ensley, Ala., 2 killed, 28 hurt; Joliet, Ill., 1 killed, 8 hurt.

22. Railway: collision near Sloan's Valley, Ky., 7 killed, 10 hurt; grade-crossing accident near Chickamauga, Tenn., 4 killed. Collision near Chickamauga, 8 hurt. Shipwreck: British ship Fearnought lost at sea, crew rescued by British ship Engineer.

24. Train derailed near Wakarusa, Kan., 30 hurt. Disastrous storm on the New England coast.

25. Railway collision near Warwick, Pa., 2 killed, 9 hurt.

26. Fires: Mobile, Ala., cotton presses, mills, factories, cars, and steamboats burned, estimated loss, \$650,000; Philadelphia, large confectionery establishment; Youngstown, Ohio, Rolling Mill, loss, \$100,000; Stillwater, Pa., whole place burned, mill, store and 13 dwellings; Pinkney, Ill., railroad buildings, estimated loss, \$80,000. Railway collision near Beach Tree, Pa., 2 killed.

27. Storms and very high tides on New England coast, much damage.

28. Railway: collision near Monticello, Ga., 2 killed, 2 hurt; Barnum's circus train wrecked near Murder Creek, Ga., 5 killed.

29. Railway: displaced freight wrecks a passenger train near Valley Falls, R. I., 3 killed, 8 hurt; train derailed near Seneca, S. C., 6 hurt. Collision at sea, off Barnegat, Spanish steamer Vizcaya. American schooner Hargraves, 65 drowned, both vessels lost.

31. Railway collision near Steele's Mills, Ga., 2 killed.

Summary of railway accidents in October: 152 collisions, 115 derailments, 16 miscellaneous; total, 283. Killed: 81 employes, 10 passengers, 9 trespassers; total, 100. Hurt: 54 employes, 43 passengers, 3 trespassers; total, 100.

November 5. Fire: New Rochelle, N. Y., several fine buildings burned with valuable contents. Railway collision near Mayfield, Pa., 3 killed, several hurt.

6. Fires: Denver, Col., St. Elmer Hotel, 1 killed, estimated loss, \$100,000; Buffalo, N. Y., elevator burned, estimated loss, \$250,000; Truckee, Cal. (incendiary) business part of town burned. Train wrecked near Carbondale, Pa., 2 killed, several hurt.

7. Fires: Winslow, Ind., burned, 400 people homeless; Owensboro, Ky., several hurt, estimated loss, \$250,000. Several persons hurt in sundry train accidents. Violent storm and many wrecks along the British coast.

8. Boiler bursts: Magnolia, Miss., 2 killed, several hurt. Fire: Pictou, N. S.

10. Shipwreck: schooner Ocean Wave on Lake Ontario, all hands lost.

11. Railway collision in England, 10 killed, 8 hurt. Ferryboat capsizes in the Danube, 55 drowned.

12. Train accident near Olathe, Kan., D. G. Campbell, the temperance lecturer, killed. Shipwreck: British torpedo cruiser *Serpent*, on coast of Spain, 273 lives lost (only 4 saved). Fire: Wellington Barracks, London, burned.

13. Railway trestle breaks near Salem, Ore., 3 killed, several hurt.

14. Collisions: on Pennsylvania Railway, 2 killed, 18 hurt; near Scott's Station, Ohio, 3 killed. Explosion: dynamite near Lima, Ohio, 2 killed.

16. Railway collision near Elkton, Minn., 3 killed. Fire: Luthersburg, Pa., nearly destroyed.

17. Railway bridge breaks near Kansas City, 9 killed, several hurt. Skating accident: Elk Lake, Wis., 3 drowned. Boiler bursts at Mertztown, Pa., 3 killed, 7 hurt. Shipwreck off Dalmatia, 38 lives lost.

18. Building falls at Lima, Ohio, 2 killed.

21. Railway accident near Meriden, Conn., 3 killed.

22. Fire: Paterson, N. J., silk mill and other buildings burned, estimated loss, \$100,000.

23. Fires: at New Alton, Ill., glass works burned, estimated loss, \$100,000; and Bellaire, Ohio, estimated loss, \$100,000.

24. Explosion: dynamite in New York, 2 killed, 2 hurt. Collision at sea: British steamer *Calypso* and a Spanish steamer, both sunk, but all hands saved.

25. Fire: Cheboygan, Mich., lumber burned, value, \$200,000. Boiler bursts: South Bay, N. B., 6 killed.

26. Fires: Bayonne, N. J., tenement houses burned, 36 families homeless. Portland, Me., damage, \$20,000; and Hebron, Ind., damage, \$40,000.

27. Boiler bursts: Scotland, Ga., 3 killed, 4 hurt. Fires: St. Paul, Minn., damage \$150,000; Green Bay, Wis., damage, \$75,000; steamboat L. P. Leathers, near Fort Adams, Miss., 5 killed, loss, \$30,000. Faulty construction: scaffold falls at Yale-Princeton foot ball game, Brooklyn, about 50 hurt, several seriously.

28. Fire: Newtown, Conn., estimated loss, \$100,000.

29. Fires: Queens Co., New York Oil Works, loss, \$75,000; factory, East St. Louis, loss, \$75,000.

30. Runaway train near Haysted, Ore., 4 killed.

Summary of railway accidents in November: 111 collisions, 90 derailments, 3 miscellaneous; total, 204. Killed: 44 employes, 10 passengers, 12 trespassers; total, 66. Hurt: 125 employes, 138 passengers, 2 trespassers; total, 265.

December 1. Drowning: Evansville, Ind., 5 lives lost. Fires: Philadelphia, Campbell Manufacturing Company, damage, \$300,000; New Albany, Miss., 10 business houses burned.

2. Railway accidents: 2 persons run over and killed near Swickley, Pa.; two tramps killed near Dayton, Ohio.

3. Fires: Detroit, 2 killed; Oxford, Ala., hotel and stores burned.

4. Furnace falls, Joliet, Ill., 5 killed, 3 hurt. Fire: Pittsburg, 2 killed. Tank bursts: Cincinnati, 3 killed, 2 hurt. Railroad accidents: near Reading, Pa., 3 killed, several hurt; Jacksonville, Mo., 2 killed.

5. Terrible storms in the north Atlantic, 13 lives lost. Fire: Pittsburg, Pa., damage, \$350,000.

7. Fires: Vandalia, Ill., \$20,000 damage; Washington, D. C., \$2,500.

8. Fire: Scranton, Pa., church burned.

9. High wind: Monroe, Ala., 2 killed, several hurt.

10. Fire: San Francisco, Linseed Oil Works, loss, \$200,000. Defective construction: Bangor, Me., an ice staging gives way, 2 killed, 3 hurt. Railway accident, Minneapolis, 3 killed.

11. Fires: Elmira, N. Y., pork-packing house, loss \$80,000; at Sandusky, Ohio, elevator, loss, \$40,000; and box factory, loss, \$50,000.

12. Fire: Akron, Ohio, inflammable costumes at a birthday party, 8 girls badly burned, 2, at least, fatally.

13. Fire: Greenville, Miss., 4 lives lost. Railway: grade-crossing accident near Bristol, Pa., 4 killed, 2 hurt, perhaps fatally.

15. Railway collision near Pittsburg, Pa., 2 killed, 2 hurt.

16. Explosion: powder works, Youngstown, Ohio, 1 killed, several hurt. Fire: Darlington, S. C., nearly half of the business houses burned.

17. Violent storm of wind: snow and rain in the North and East, several lives lost. Defective construction: a "cage" falls in a Belgian mine, 18 killed; a building falls in Bombay, India, about 30 killed.

18. Fires: steamer Lake Washington at New Orleans and the Grand Central Hotel and a brick block at Wavercos, Ga.

19. Wind: near Montrose, N. Y., men blown from the roof of a freight car, 2 killed. Railway accident near Somerville, Boston, 2 girls killed.

21. Railway: grade-crossing accident near Middle Village, N. Y., 2 killed. Fires: at Camden, N. J., loss, \$45,000; at Whitestone Landing, N. Y., railway round house, loss, \$30,000. Flood near Cordova, Argentine Republic, canal overflows, about 100 lives lost.

23. Tornado near Barborton, Ohio, 2 killed, 6 hurt. Train derailed near Watsonville, Pa., 20 hurt. Shipwreck: American schooner *Mary Ellen*, 5 lost. Fires: Jesseville, Mich., 2 killed; Masonic Temple burned at Baltimore, estimated loss, \$350,000; dwelling house near Holden, Mo., 2 killed.

26. Fire at Rochester, N. Y., 3 killed. Shipwreck: steamship *Thanemore* given up, 46 men and 430 cattle lost, with ship and cargo; also schooner A. H. Halbert, 3 lives lost. Explosion: cartridge factory, Lake Hopateong, N. J., 2 killed; boiler explosion near Newport, Ark., 2 killed, several hurt.

27. Boiler explosion: Cincinnati, 1 killed, 6 hurt, 7 dwellings wrecked. Fire: the Bijou Theatre, Minneapolis. British steamer *Shanghai* burned in the China Sea, about 100 lives lost.

28. Land-slide on Northern Pacific Railway, Washington. Fire: Keosauqua Valley, N. Y., Mt. Porter Hotel burned, loss, \$40,000, partly insured; also in Auburn Prison, N. Y., loss, \$15,000.

29. Fire: Burlington, Iowa, loss, 200,000.

30. Fires in London, estimated loss, \$2,500,000. Roof falls in New York, 2 killed, 10 hurt. Fire in San Augustine, Texas, many business houses burned.

31. Fog: many accidents and much delay and damage caused by an immense fog bank that covers the Northern States.

Summary of railway accidents for December: 155 collisions, 113 derailments, 14 miscellaneous; total, 282. Killed: 35 employes, 13 passengers, 5 trespassers; total, 53. Hurt: 104 employes, 78 passengers, 1 trespasser; total, 183.

Summary for the year: Railway accidents of all kinds, 2,221; persons killed, 819; persons hurt, 2,562.

DISCIPLES OF CHRIST. The General Conventions of the Disciples of Christ—the General Christian Missionary Convention, the Christian Foreign Missionary Convention, and the Woman's Christian Board of Missions—met at Des Moines, Iowa, in October. The contributions to the funds of the Foreign Missionary Society for the year amounted to \$63,109, or \$5,820 more than in the previous year. The report showed that the expenses of managing the work were less than 6 per cent. of the gross receipts. Mr. O. A. Bartholomew presided over the meeting of the General Christian Missionary Convention, and Mr. D. R. Ewing was chosen president for the coming year. Delegates were appointed to represent the convention in the Interstate American Sabbath Union of Minnesota, Iowa, North and South Dakota, and Kansas, and others to represent it in the National American Sabbath Union, provided the basis of the Union were so amended as to read: "The object of this Union shall be to preserve the Lord's Day as a day of rest divinely appointed, by holding public meetings, circulating literature, securing execution of laws, obtaining new laws, and maintaining a law-abiding and Lord's-Day-keeping sentiment." The total resources for the year of the Christian Woman's Board of Missions had been \$53,114, and its expenditures \$43,931. The year's receipts for the Church Extension fund had been upward of \$15,000. The secretary of the society had dedicated thirty-two churches, toward the cost of which he had raised more than \$65,000. A committee was appointed to call a National Convention of the Young People's Societies of Christian Endeavor of the Disciples of Christ.

DOMINION OF CANADA. Parliament. The fourth session of the Sixth Parliament opened on Jan. 16, 1880. The Governor-General, Lord Stanley, of Preston, read the following speech from the throne:

Honorable Gentlemen of the Senate: Gentlemen of the House of Commons: In calling you together again for the consideration of public affairs, I may fairly congratulate you on a continuance of the progress and prosperity of the country. During the recess I visited Manitoba and the Northwest Territories and British Columbia, and everywhere I found myself received with the loyalty and good will which I have learned to be characteristic of Canada. A comparison of my own observations with those of my predecessors shows clearly the great progress which has marked this part of the Dominion in the settlement of the country and in the development of its great agricultural capabilities, of its mineral wealth, and of its other natural resources.

In consequence of the repeated seizures, by cruisers of the United States navy, of Canadian vessels, while employed in the capture of seals in that part of the northern Pacific Ocean known as Behring Sea, my Government has strongly represented to Her Majesty's ministers the necessity of protecting our shipping while engaged in their lawful calling, as well as of guarding against the assumption by any nation of exclusive proprietary rights in those waters. I feel confident that those representations have had due weight, and I hope to be enabled during the present session to assure you that all differences on this question are in the course of satisfactory adjustment.

Having observed the close attention which has recently been given by the imperial authorities, and on the Continent of Europe, to the improvement in the methods of catching, curing, and packing fish, I deemed it expedient to cause a commission to be sent

to Scotland and Holland to examine and report upon this subject during the fishing season. The report of the delegates will be laid before you; it will, I am sure, give our fishermen most valuable information and instruction as to the best means of improving and developing this important industry.

My ministers have carefully considered the difficulties which surround the administration of the rights of the Dominion in its foreshores, harbors, lakes, and rivers, and a measure will be submitted to you for removing uncertainty as to the respective rights of the Dominion and of the provinces, and for preventing confusion in the titles thereto.

The report of the Royal Commission on Labor, which was laid before you during the last session, has been distributed throughout the country. I have reason to believe that the information which it contains will be found eminently useful in suggesting improvements in the administration of the laws which affect the working classes. Measures for the amendments of these laws, so far as they come within the jurisdiction of the Parliament of Canada, will be submitted for your consideration.

The early termination of the acts of incorporation of the principal banking institutions of the Dominion necessitates a review of our present system of banking and an adjustment of the terms under which the charters of these corporations should be renewed. Your attention will be drawn to this important subject.

Certain amendments to the acts relating to the Northwest Territories, calculated to facilitate the administration of affairs in that region, as also a bill further to promote the efficiency of the Northwest mounted police, will be submitted for your consideration.

Measures will be laid before you relating to bills of exchange and promissory notes, to improve the laws respecting patents of invention and discovery, to amend the Adulteration act, and the law respecting the Inland Revenue, to amend also the act respecting the Geological and Natural History Survey of Canada, and to provide for the better organization of the national printing establishment.

Gentlemen of the House of Commons: The accounts for the past year will be laid before you. It will be found that the estimates of revenue have been realized, and that, after having fully provided for the various public services of the country, a substantial surplus will remain. The estimates for next year have been framed with a due regard to the requirements of the public service.

Honorable Gentlemen of the Senate: Gentlemen of the House of Commons: I commit these weighty matters, and all others which may come before you, to your earnest consideration. And I rely upon your wisdom and prudence to deal with them in the manner which, under divine Providence, may prove most conducive to the happiness and prosperity of Canada.

The Budget.—The Finance Minister, Mr. Foster, delivered his budget speech on March 27. The revenue for the financial year ending June 30, 1880, was shown to be \$38,782,870, and the expenditure \$36,917,834. The revenue from customs was 7½ per cent. higher than in the preceding year, and from excise 13½ per cent. higher. The expenditure on capital account was \$8,783,126, divided as follows: Railways and canals, \$3,682,774; public works, \$575,408; Dominion lands, \$130,684; Northwest rebellion, \$31,448; redemption of debt, \$3,516,091; railway subsidies, \$846,721. The net debt, July 1, 1880, was \$237,530,041, showing a net addition for the year of \$2,998,683. The increase during the preceding year was \$7,217,000. For the current year the minister estimated the revenue at \$39,200,000, and the expenditure at \$36,500,000. Glancing at the history of the Dominion since confed-

eration, Mr. Foster congratulated the country upon what it had accomplished in emerging from a chaos of scattered provinces; in solving the problem of immeasurable distances; in molding the ambitions of its widely differing creeds, races, and interests into a dominant sentiment of national unity; and in building magnificent channels of intercommunication. This had been done by pouring out treasure like water, by an expenditure beginning with \$13,500,000 in 1867, reaching this year nearly \$37,000,000, and averaging twenty-five and one third millions a year, or a total of \$558,000,000, besides pledging its resources to the extent of \$237,000,000. While maintaining that the money had been wisely expended, the Finance Minister repeated the opinion expressed in his last budget that after 1889 neither the public debt nor the expenditure for ordinary purposes should be increased.

In introducing numerous tariff changes, it was pointed out that many of them were made simply for the purpose of making the tariff more intelligible to business men. Among the articles practically affected by the changes are the following: Fancy boxes and cases, and all the cognate fancy manufactures, raised from 30 to 35 per cent.; common colorless window glass, reduced from 30 to 20 per cent.; ornamental figured and colored window glass, reduced from 30 to 25 per cent.; stained-glass windows and silver plate glass, to remain at 30 per cent., and beveled glass to pay 35 per cent.; gloves and mitts, raised from 30 to 35 per cent.; wall paper and hangings, reduced variously on qualities subject to specific duties, others to pay 35 per cent. *ad valorem*; dry plates for photographers, reduced from 15 cents to 9 cents, estimated to be equal to from 35 to 40 per cent. at present prices; stereotypes and stereotyped plates, formerly taxed by weight, to be taxed 2 cents a square inch; umbrellas, raised from 30 to 35 per cent.; copper and brass wire, formerly on the free list, 15 per cent.; covered wire, increased from 25 to 35 per cent.; woolens, raised from 74 cents a pound and 20 per cent. *ad valorem*, to 10 cents a pound and 20 per cent. *ad valorem*; on spirits and alcohol the rates remain the same, but are to be arranged upon the proof strength, so that liquors imported much above proof shall have no advantage over the liquors at or about proof; silks, sweats, and linings, formerly admitted free to be used in the manufacture of hats, having been used for other purposes, are removed from the free list, and as compensation to the hatters the duty on straw and woolen hats is increased 5 per cent.; ladies' hats remain unaltered; fur-felt hats, to pay \$1.50 per dozen additional, but the *ad valorem* duty to be reduced from 25 to 20 per cent.; flour increased 25 cents a barrel, making 75 cents, supposed to be about equivalent to the duty on wheat at 15 cents a bushel; mess pork or heavy pork, raised from 1 cent to 1½ cent a pound; salted and fresh meats, formerly paying 1 and 2 cents, to pay 3 cents a pound; prepared meats, raised from 2 cents to 3 cents; dried lard, raised from 2 cents to 3 cents; unried lard, from 1½ cent to 2 cents; live cattle, hogs, and sheep, raised from 20 to 30 per cent.; on corn meal, kiln dried, a rebate of 90 per cent. on the original duties paid to be allowed to the persons milling; on molasses, the duty averaging about 15 per

cent., to be reduced about half. Dealing with the much-vexed question of certain fruits, plants, and shrubs, placed upon the free list in 1888, the minister announced that the duties would now be reimposed, with the exception that on blackberries, gooseberries, raspberries, and strawberries, the duty would be 3 cents instead of 4 cents; bananas, plantains, pineapples, pomegranates, guavas, mangoes, shaddockes, wild blueberries, and wild strawberries are made free; and beet, carrot, turnip, and mangel seeds for the use of farmers are placed on the free list.

In 1888 the Opposition had brought pressure to bear upon the Government, contending that under the Standing Offer clause of the Tariff act of 1879, whenever the United States admitted any of the fruits, plants, and shrubs enumerated free of duty Canada was bound to do the same. The Government's contention was that the clause was permissive, not mandatory, and moreover that it was never intended that the Dominion Government should take any action unless the United States Government should free the products mentioned as a whole. The Government, however, had yielded for the time being, and the result had been that a considerable amount of duty had been lost, and a great deal of damage done to a large and important interest in the country. He argued that the removal of the duties did not place the Canadian grower in a position of fair and equal competition with the Americans, because, for instance, there was State legislation in most of the bordering States, making it practically impossible for Canadian nurserymen to do business there; and also because, while the Canadian season is short, the United States has the advantage of a wide range of climate. The Finance Minister concluded by announcing that mining machinery, steel and iron for use in building, steel and iron ships, and seed for ensilage purposes had been placed on the free list.

Sir Richard Cartwright (Liberal) congratulated the Finance Minister upon being happy in his fool's paradise. Not for thirty-five years had there been in the annals of Canada, and notably of Ontario, a year in which there had not been in some portions of the country cases of such extreme distress and such well-founded apprehensions for the future. He criticised the Government for looking to the West Indies and South America for the development of Canadian commerce, and overlooking 5,000 miles of nearer territory, in order to reach countries south of the equator. Sir Richard instanced the Intercolonial Railway, with its year's deficit of \$416,000, as one of the "princely equipments and royal endowments" referred to by the Finance Minister, and, in denial of the statement that the people of the United States are a unit in favor of protection, urged that President Cleveland, the champion of free trade, had a popular majority of over 100,000 in the last presidential election. He stigmatized the position of Canada with regard to the United States as most unsatisfactory. The reflection of the policy of the Dominion Government was to be seen in the McKinley resolutions, and the reflection of the policy of the Opposition in the resolutions introduced by Mr. Hitt. He characterized the policy of the Government on the fishery question as a

succession of imbecile blunders, a policy of bluster and annoyance. He had no doubt that a *plebiscite* would show the people of Canada overwhelmingly in favor of closer trade relations with the United States, and if it were possible to obtain a fair and honest expression from the people at the polls, free from the effects of gerrymander acts and franchise bills and a subsidized press and all the side issues which disturb a political election, the result would be the same. He claimed that the failure of the national policy was indicated by the slowness of the growth of the rural population. Taking Ontario as an illustration, he showed that during the seven years of Mr. Mackenzie's administration, the rural population increased by a little less than 11,000 souls, or, in other words, eight times more than it did during the Conservative administration of nine years. Of 83 rural constituencies in Ontario, the population in 50 had actually retrograded in those nine years; many of the others were stationary in population, and hardly one had maintained its natural increase. Sir Richard next took up the question of farm mortgages. Admitting that in newly settled countries an increase of indebtedness is not always a proof that the country has retrograded, he argued that in old settled countries there could be no clearer proof that farming has become unprofitable, than that the farmers are increasing their indebtedness. Both the Dominion and the provincial governments having failed in their duty to investigate this important question, he himself had taken such means as were fairly open to him to ascertain what was the extent of the mortgage indebtedness of the Ontario farmers, and he submitted a statement showing that the total for Ontario was over \$200,000,000, if it did not reach \$300,000,000, the entire assessed value of the province being about \$429,000,000. This indicated that a large population of the once prosperous farmers of Ontario had sunk below the level of tenants at will. Simultaneously with the increase in mortgages there had been an enormous depreciation in the value of farm lands. He admitted that the same state of things existed in the United States, or rather worse, because they had had the protective system longer there. He did not regard the mischievous policy of the Government as solely responsible for the disastrous consequences he deplored. Some of the causes were beyond their control, and his charge against the honorable gentlemen was rather that they falsely pretended to be able to avert those disasters than that they had caused them. One feature that they were directly responsible for was the outrageous taxation levied upon the people. In conclusion, Sir Richard moved, in amendment to the motion to go into committee of supply, to substitute the following:

The total ordinary expenditure of Canada chargeable to the consolidated fund in the fiscal year 1873 was \$23,519,301.

That the total taxation collected in the same year was \$17,841,938.

That the total ordinary admitted expenditure in the year 1839 was \$36,917,834.

That the total taxation collected in the same year was \$30,618,522.

That, over and above the amount of the taxes actually paid into the treasury, an immense additional

sum is annually taken out of the pockets of the people and is paid over to certain private individuals and corporations under pretense of protecting and encouraging certain special industries.

That in the decade terminating on the first day of July, 1889, the sum of \$262,812,578 has been raised in the way of taxes actually paid into the treasury, independently of an immense additional amount extracted from the people for the aforesaid purposes.

That the said taxation is enormous and oppressive in its incidence, and that it is so imposed as to diminish the value of lands used for agricultural purposes and to increase the indebtedness of the agricultural class in especial.

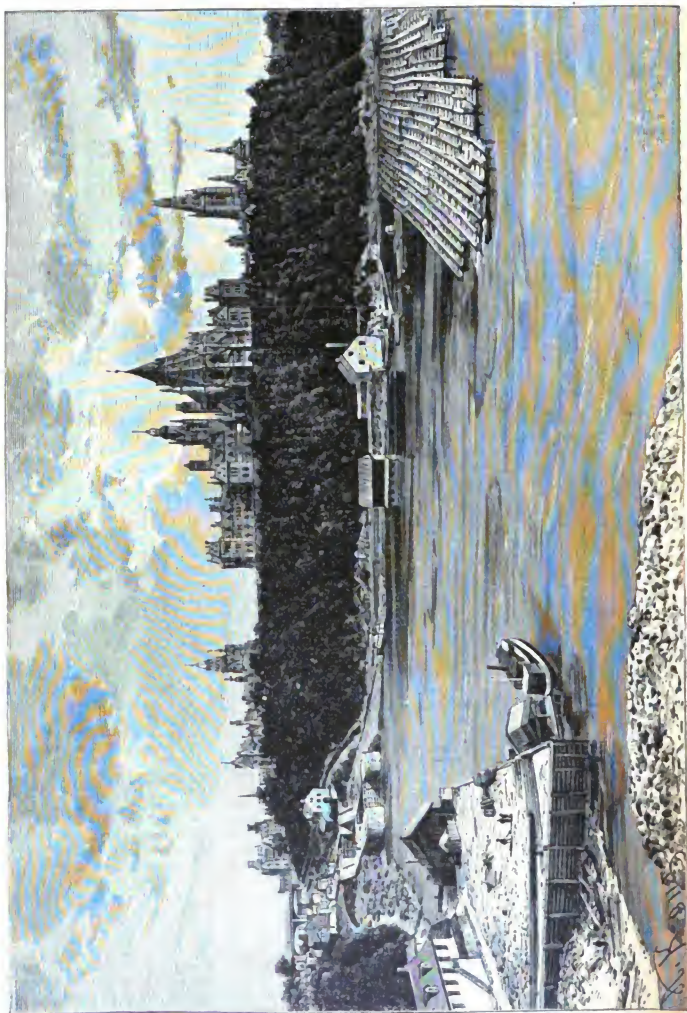
That in fact the values of farm lands have greatly diminished and the amount of mortgages thereon has been much increased throughout a very large portion of this Dominion since 1879.

That the additional taxation which it is now sought to impose will still further increase the burdens of the people and is likely still further to aggravate the distress unhappily existing among a large portion of the farming population of this Dominion; and that, under such circumstances, it is the bounden duty of this House, instead of adding to the existing oppressive taxation, to apply itself to the reduction of the burdens now impeding the progress and prosperity of the principal producing classes of the Dominion, and for this purpose to abolish or reduce the taxes now imposed on articles of prime necessity to farmers, miners, fishermen, and other producers.

Hon. Mr. Colby challenged the Opposition to name any State in the Union in which farm values had maintained such steadiness as in Ontario. He quoted from the report of Mr. Blue, the Provincial Statistician, to show that during the seven years from 1882 to 1888 inclusive, the value of the Ontario farms averaged \$637,732,000, while the value for 1888, the last year of the period, was \$640,000,000. The value of farm buildings averaged \$172,000,000 during the seven years, and was estimated at \$188,000,000 in 1888. Farm implements averaged \$46,000,000 during the seven years, and reached \$49,000,000 in the last year. Live stock averaged \$99,000,000 during the seven years, and was estimated at \$102,000,000 in 1888. The total value of farm property averaged \$956,882,048 during the seven years, and the last year's value was \$981,368,094. The average value per acre of wheat in Ontario was \$15.78, against \$9.44 in the United States. Corn was worth \$18.90 an acre in Ontario, against \$9.32 in the United States. The value of barley per acre in Ontario was \$14.98, against \$12.67 in the United States. Mr. Colby contrasted the condition of Ontario with that of Vermont, New Hampshire, and Maine, which States were rapidly being depopulated by the natural movement of the people westward, necessitated by the new methods of agriculture. The movement would be the same among the farming classes under free trade or protection, with reciprocity or without reciprocity; but he claimed for the national policy that it had retained for Canada so much of her population as is engaged in the manufactures and associated industries which it has created.

After a long debate, Sir Richard Cartwright's amendment was negatived by a vote of 97 to 60.

Banks and Banking.—The expiring of the charters of the incorporated banks of Canada in 1891 necessitated the passing of a new banking act in the session of 1890. The Canadian system of banking under the old law, although not with-



THE DOMINION PARLIAMENT BUILDINGS, AT OTTAWA.

out serious defects, is admitted to have been upon the whole well suited to the needs of the country. Thirty-five or forty banks, with about four hundred and twenty branches scattered throughout the Dominion, had supplied the trading community with money at rates of interest remarkably uniform, irrespective of locality. While people in some of the Western States were paying 1 or 2 per cent. a month for money, people in the Canadian Northwest were borrowing at 6 or 7 per cent. per annum. The most noteworthy defects of the Canadian banking system, as contrasted with that of the United States, were in connection with the issue of bank notes. There being no Government guarantee of the currency issued by the Canadian banks, note holders have suffered severely in the cases where Canadian banks have become insolvent. For the same reason the notes of the smaller banks were not always accepted as freely as a national currency would be, and, what was probably the most serious drawback of all, notes issued in one part of the Dominion were subjected to discount in other parts. As a matter of fact, the losses of note holders, except in a few instances, were not heavy, because in case of a bank's insolvency the claims of the note holders formed a first lien upon the entire assets of the bank, and this class of creditors was further protected by the liability of the share holders to the extent of twice the amount of their share capital. The class who suffered most were poor people, the holders of small amounts in the notes of insolvent banks, who were not able to wait until the tedious process of liquidation would give them a hundred cents on the dollar for their notes. Brokers and speculators would buy these notes at very low prices, and obtain their par value from the banks in the course of a few months. There is a practical limit to the possibilities of bank-note issue independent of statutory provisions, and while the banks had the legal right to issue notes to the extent in the aggregate of about \$60,000,000, the issue actually ranged from \$30,000,000 to \$36,000,000. Independent of this issue of chartered bank currency, there is a Dominion note circulation issued by the Government of Canada. One of the most important provisions of the new Banks and Banking act is the establishment of a guarantee redemption fund, by which the banks become practically mutual insurers of one another's circulation. With one or two exceptions, every bank is called upon to deposit with the Minister of Finance a sum equal to $2\frac{1}{2}$ per cent. of the average amount of its notes in circulation during the twelve months preceeding the date of the act going into force. By July 15, 1892, this amount must be made up to 5 per cent. of the amount of note circulation for the twelve months then completed. The fund so formed is to be held for the sole purpose of meeting the notes of any bank that may become insolvent, and that may not be redeemed. In case the fund should become impaired by the payments to redeem the notes of an insolvent bank exceeding the amount of its deposit, the other banks will contribute *pro rata* to the amount already contributed by them, in order to make up the deficiency, no bank to be called upon to contribute more than 1 per cent., on the average, of its note circula-

tion for the year. The banks are also required to make arrangements for the redemption of their circulation at par in any and every part of Canada, and to that end are all required to have agencies for that purpose in Halifax, St. John, Charlottetown, Montreal, Toronto, Winnipeg, and Victoria, and at any other places that may be designated by the Treasury Board. In future, no banks are to be incorporated with less than \$500,000 capital, and every new bank, no matter what its capital, must, before holding its first meeting of share holders, deposit \$250,000 with the Government, to be held during the organization of the bank. Directors must be subjects of Her Majesty, and the stock upon which they qualify must be fully paid up. The Dominion Government is to have a second lien upon all bank assets (after the note-holders' lien is satisfied), as security for its deposits, and the provincial governments a third lien for their deposits. No dividends are permitted to be paid that would impair the paid-up capital, and any impairment of the paid-up capital is to be made good by calls upon the share holders. No dividends or bonuses exceeding together 8 per cent. per annum, unless a bank has a reserve or rest equal to 30 per cent. of its paid-up capital, after allowing for bad and doubtful debts, and 40 per cent. of the reserve must be held in Dominion notes. Banks are permitted to issue notes of the value of five dollars and multiples of five dollars, to the amount of their unimpaired paid-up capital. They are prohibited from hypothecating their notes. All balances remaining unclaimed in banks after five years from the last transaction are to be paid to the Government, to be retained subject to the claims of the rightful owners.

Debate on the Dual-Language Question.

—On Feb. 12 Mr. Dalton McCarthy, formerly a member of the Conservative party, now the leader of the Equal Rights party, moved the second reading of his bill to abolish the French language as an official language in the Northwest Territories. Mr. Davin moved in amendment:

That this bill be now read a second time, but that it be resolved that it is expedient that the Legislative Assembly of the Northwest Territories be authorized to deal with the subject of this bill by ordinance or enactment after the next general election for the said Territories.

In support of his amendment, Mr. Davin argued that it was a question to be settled by the local legislature, and that, although the French population were in a minority in the Northwest, it would be manifestly unfair to repeal the clause without giving them a hearing. He criticised the illogical stand Mr. McCarthy had taken regarding this question, and denied the proposition laid down by the latter gentleman, that "it is only by language and by the community of language that men are formed into nations." Mr. Davin accused Mr. McCarthy of inaugurating a crusade against the Roman Catholic Church rather than endeavoring to do away with the French language. Comparing the governments of Canada and Switzerland, Mr. Davin pointed out that in the latter country they had three official languages, notwithstanding which that country had continued to prosper during the past six centuries, and he maintained that there

was a close analogy between the two countries. In criticising Mr. McCarthy's statement that the French Canadian was hostile to England, Mr. Davin instanced the Province of Quebec with its preponderance of French element, and stoutly denied that there was any desire whatever on their part to sever from the English flag.

Mr. O'Brien (Equal-Rights member) denied the statements made by Mr. Davin, and maintained that there was no analogy between Canada and Switzerland. In the former, he said, we had but one nationality, while in the latter country there were different races and different nations. Mr. O'Brien supported the bill chiefly on the grounds that it was the wish of the majority of the people in the Northwest to abolish the dual language, and argued that the maintenance of such would exercise a bad influence by enabling the minority to retard measures that would be beneficial to the Northwest. Mr. O'Brien denied that Mr. Davin represented the wishes of the people in the northwest, whom he was sent to represent. The question was one for the House to deal with, and should not be left to the local legislature.

Mr. White (Cardwell) complained that the speech of Mr. McCarthy from beginning to end had a tendency to offend the French Canadians, and was not at all addressed to the question at issue. He strongly supported the maintenance of the dual language as it had existed for nearly fifty years, and said that any interference with this would only tend to make the French Canadian more exclusive instead of assimilating with his fellow-citizens of British origin.

Mr. Denison (Equal Rights), the seconder of the bill, strongly advocated the abolition of the dual language, as French, he said, was very little spoken in the Northwest, and the attempt to maintain the dual language was in a great measure owing to the threats of Mr. Mercier, which he altogether ignored.

Mr. Mulock (Liberal) favored the maintenance of the dual language chiefly on the grounds of fair play to the French minority, and argued that it was a question solely for the local Legislature, who were in a position to obtain the most direct evidence on the question.

Mr. Curran strongly opposed the bill, which was calculated to create ill-feeling between the nationalities and tended to mar the prosperity of the country. He maintained that the question was not one of general interest, and should never have been introduced into the Dominion Parliament, but settled locally, if anything required to be settled. If this bill passed, it would certainly put a stop to French-Canadian immigration into the Northwest Territories, and encourage their exodus to the United States.

Sir Hector Langevin opposed the bill on the grounds that it was not only uncalled for, but no petition had ever been sent by the people of the Northwest for interference in the matter. He criticised McCarthy's injustice in trying to force upon a portion of the people a language they could not speak. The French in the Northwest were there knowing they were subjects of the Queen; they were loyal, they spoke French only, and as long as they did not speak treason they had a right to have French recognized officially.

Mr. Charlton (Liberal) supported the bill and

maintained the advisability of having but one official language. In support of this he instanced the rapid prosperity of the United States as compared with Canada or Switzerland.

Mr. Blake (Liberal) opposed the bill because it struck at the root of time-honored usages, and urged the House to "declare its inviolable adherence to the covenants in respect to the use of the French language in Canada, and its determination to resist any attempt to impair those covenants."

Mr. Laurier (leader of the Opposition) denounced the bill as nothing more than a preliminary step to the further oppression of the French Canadians, and denied that it had been introduced with any idea that it would be likely to pass. He accused Mr. McCarthy of being guilty of purely personal motives in introducing the bill.

Sir John A. Macdonald condemned the bill as being out of place altogether. Mr. McCarthy, he said, should have attacked the French language in Quebec, where it was, and not in the Northwest, where it was not, if he meant anything by the measure.

Mr. Chapleau opposed the bill, as it would have a tendency to stop French emigration to the Northwest, and this, he said, should be encouraged by all means, as the French made good settlers, were suited to the country, and were peaceable and loyal, and their right to have the French tongue recognized as official should be accorded to them. The French, Mr. Chapleau argued, were the first settlers in the Northwest, and on this account also were entitled to consideration.

Sir Richard Cartwright (Liberal) demanded that the French Canadians of the Northwest be accorded the same privileges as those of Quebec, and condemned the bill as needlessly affronting and offensive to the French nationality.

Sir John Thompson moved an amendment to the amendment:

That this House, having regard to the long-continued use of the French language in old Canada, and to the covenants of that subject embodied in the British North America act, can not agree to the declaration contained in the said bill as the basis thereof, that it is expedient in the interests of the national unity of the Dominion that there should be community of language among the people of Canada.

That, on the contrary, this House declares its adherence to the said covenants, and its determination to resist any attempt to impair the same;

That, at the same time, this House deems it expedient and proper, and not inconsistent with these covenants, that the Legislative Assembly of the Northwest Territories should receive from the Parliament of Canada power to regulate, after the next general election of the Assembly, the proceedings of the Assembly and the manner of recording and publishing such proceedings.

The House divided on the amendment to the amendment: yeas, 149; nays, 50.

Offenses against Public Morals.—An act that was passed this session to amend the criminal law contains some noteworthy provisions in the interests of public morals. The "age of consent" is raised to fourteen years. For a guardian to have illicit connection with his ward, or for any person to have illicit connection with any woman under twenty-one, of previously chaste character, and who by reason of her employment

in any factory, mill, or workshop is under his control, is made a misdemeanor punishable by two years' imprisonment. The grosser acts of indecency are made punishable by five years' imprisonment and whipping, and incest by fourteen years' imprisonment—the male offender to be whipped also. Procuration by parents or guardians of a girl under fourteen years of age, for purpose of defilement, is punishable by fourteen years' imprisonment; if the girl is over fourteen, by five years' imprisonment. Procuration by any person of a girl under twenty-one for purposes of prostitution, within or without Canada, or procuration by means of threats or false pretenses, is punishable by two years' imprisonment. The minimum punishment for abusing a girl under fourteen is five years and a whipping, and the maximum is imprisonment for life; for an attempt, the penalty is two years and a whipping, and the same punishment is prescribed for an indecent assault upon any woman. The testimony of children, whether old enough to understand the nature of an oath or not, is admissible, but must be corroborated by material evidence.

Mormonism.—In view of the immigration of many Mormons to the Northwest Territories, the following clauses were inserted in the act to amend the criminal law, in the hope of preventing the introduction of polygamy into Canada.

Every one who, being married, marries any other person during the life of the former husband or wife, whether the second marriage takes place in Canada or elsewhere, and every male person who, in Canada, simultaneously, or on the same day, marries more than one woman, is guilty of felony and liable to seven years' imprisonment.

Every one who practices, or by the rites, ceremonies, forms, rules, or customs of any denomination, sect, or society, religious or secular, or by any form of contract, or by mere mutual consent, or by any other method whatsoever, and whether in a manner recognized by law as a binding form of marriage or not, agrees, or consents to practise or enter into:

1. (a) Any form of polygamy; or (b) any kind of conjugal union with more than one person at the same time; or (c) what among the persons called Mormons is known as spiritual or plural marriage; or (d) who lives, cohabits, or agrees or consents to live or cohabit, in any kind of conjugal union with a person who is married to another, or with a person who lives or cohabits with another or others in any kind of conjugal union; and

2. Every person who (a) celebrates, is a party to, or assists in any such rite or ceremony which purports to make binding or to sanction any of the sexual relationships mentioned in sub-section 1 of this section; or (b) procures, enforces, enables, is a party to, or assists in the execution of any such form of contract which so purports, or the giving of any consent which so purports, is guilty of a misdemeanor, and liable to imprisonment for five years and to a fine of \$500.

3. In any charge or indictment for any offense mentioned in sub-section 2 of this section, it shall be sufficient to describe the offense in the language of that sub-section applicable thereto; and no averment or proof of the method in which the sexual relationship charged was entered into, agreed to, or consented to, shall be necessary in any such indictment, or upon the trial of the person thereby charged; nor shall it be necessary, upon such trial, to prove carnal connection had or intended to be had between the parties implicated.

In every case arising under section 4, or under sub-section 1 of section 5, of this act, the lawful husband

or wife of the defendant shall be a competent but not a compellable witness for or against the defendant.

Orange Incorporation.—One of the after effects of the passing of the Jesuit Estates act by the Quebec Legislature, not contemplated by the promoters of that act, was to bring about the incorporation of the Orangemen of Canada by the Dominion Parliament. The bill to incorporate the Grand Orange Lodge of British America was introduced by Mr. Clark Wallace, and was carried by a vote of 86 to 61.

Fisheries.—An act was passed authorizing the Governor in Council to permit the issue of licenses to United States fishing vessels, enabling them to enter any Canadian port on the Atlantic coast during 1890 for the purpose of purchasing bait, ice, seines, lines, or other supplies and outfits, or for the transshipment of catch or shipping of crews, the fee for the licenses to be \$1.50. Licenses issued by the Newfoundland Government granting similar privileges to United States vessels in Newfoundland ports to be valid in Canadian ports whenever Canadian licenses are valid for such purposes in Newfoundland ports.

Official Secrets.—A very stringent act was passed to prevent the improper disclosure of official documents or information. The act makes it a misdemeanor, punishable by imprisonment for one year, to enter any of Her Majesty's fortresses, arsenals, factories, dockyards, camps, or ships in Canada without authority, to take any sketch or plan of such places, to communicate such sketches or plans to any person to whom, in the interests of the state, they ought not to be communicated. Any person who, by means of holding an office under the Queen, or through holding a Government contract, becomes, lawfully or unlawfully, in possession of sketches, plans, or models, and discloses them to a foreign state, is rendered liable to imprisonment for life. Persons inciting others to commit offenses against this act are made equally responsible with them. Among the other public acts passed were those—

Granting supplies to the extent of \$25,564,944.95.

Granting railway subsidies in money and land.

Amending the electoral franchise.

Reorganizing the Geological Survey.

Giving the Exchequer Court jurisdiction under the Copyright act.

Providing for the annulment of patents in case the patentees fail to manufacture in Canada within two years.

Referring to the Exchequer Court disputes with reference to the ownership of trademarks.

Amending the Steamboat Inspection act; authorizing the Governor-General in Council to make regulations concerning safety valves, etc., providing that engineers' certificates shall not be granted to foreigners until domiciled three years in Canada, or by service for three years in a British or Canadian ship.

Granting a bounty of \$2 a ton on pig iron manufactured in Canada from Canadian ores.

Amending the Indian act.

Granting the right of appeal from the Exchequer Court to the Supreme Court.

Permitting marriage with a deceased wife's sister's daughter.

Providing for the inspection of agricultural fertilizers.

Amending the Adulteration act.

Amending the law with regard to bills of exchange and promissory notes.

Votes of Censure moved.—On March 6, Mr. Laurier, leader of the Opposition, on motion to go into Committee of Supply, moved in amendment to substitute the following:

That the measure introduced last session by the Government for the construction of a railway between Harvey and Salisbury was rejected by Parliament; and after the said measure had been so rejected the Hon. Mr. Abbott stated in the Senate, speaking in behalf of the Government, that no expenditure of any kind would be made on the road until it was sanctioned by Parliament; that since last session the Government have expended for surveys on the said projected railway a total sum of \$22,322.28, in connection with which special warrants have been issued to the amount of \$13,782.28; that the expenditure of the said sums of

money under the above circumstances is a willful breach of the pledge given by the Administration to Parliament, as above set forth, and constitutes a designed violation, by the said Administration, of the undoubted powers of Parliament, and deserves the severe censure of this House.

The motion was rejected by a vote of 98 to 61.

On March 14, Mr. Laurier moved another amendment as follows:

The failure of the Government to bring down the budget, several departmental reports, all the important measures announced in the speech of His Excellency at the opening of the session, and to discharge the duties which they owe to Parliament, is highly prejudicial to public interests.

This motion was rejected by a vote of 95 to 57.

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EAST AFRICA. By treaty arrangements concluded in 1890 the entire coast of Africa not already occupied was divided among European powers, and the *Hinterland* principle was defined and applied, in accordance with which the interior of the continent is apportioned among the colonizing countries possessing the coast line. On the eastern side the British endeavored to secure a large belt of territory extending through the length of the continent from Cape Colony to Egypt, traversing both the Portuguese and the German *Hinterland*, and embracing the most elevated and salubrious parts of Africa and the best mineral, forest, and agricultural regions. This scheme, in so far as it interferes with the German sphere, has been abandoned, but the region claimed by Portugal the British Government insists on absorbing.

Portuguese Possessions.—The Portuguese claim, not only to the east and west shores of Africa, but to the intervening country, by right of discovery, was incontestable until the new principle of effective occupation was laid down in the general act of the Berlin Conference. In the sixteenth and seventeenth centuries the influence of the Portuguese was extended to the center of the continent by explorers, missionaries, and traders. While they still possessed India their establishments on the coast of Mozambique were important. In their desire to develop Brazil they retired gradually from the settlements they had founded in the interior; yet so long as the slave trade with Brazil lasted they maintained military posts on the upper Zambesi and trading-stations throughout the whole region. By the treaty of Jan. 22, 1815, and the Anglo-Portuguese convention of 1817, traffic in slaves was permitted in the Portuguese possessions, those on the east coast being defined as extending from Cape Delgado to the Bay of Lourenço Marques. The immediate jurisdiction of the Portuguese authorities in recent times has been confined to the coast settlements, which are protected by a force of Landins or Caffre troops. On the Zambesi and in other parts of the interior there has been a loose official organization, the sovereign power being represented by native chiefs and half-breeds, who receive their titles from the Government, and maintain their authority by their own strength.

Nyassaland.—In 1874 Scottish missionaries, by permission of the Portuguese Government, established themselves on the shores of Lake Nyassa, which was discovered by David Livingstone. In the course of time the African Lakes Company was organized in connection with the missions, which competed for the trade of the country with the Arabs. The British Government interested itself to secure favorable commercial conditions for the settlement, which can only be reached by the Zambesi and Shire route. In 1877 the Portuguese Government agreed to charge only a transit duty of 3 per cent, *ad valorem*, and arranged limits within which the British settlers were allowed to exercise autonomous jurisdiction. At the Berlin Conference in 1885 the British representatives endeavored to have the free-trade zone extended to the Portuguese possessions and the Zambesi declared an international river like the Congo. As late as May, 1889, the British ministry declared, in answer to inquiries in Parliament, that the country was not British territory or under the protection of the British Government. A proclamation of a British protectorate was made on Sept. 21, 1889, by the acting consul at Lake Nyassa over the region comprised within the boundaries beginning on the left bank of the lower Shire river at its confluence with the Ruw river, and following the Ruw to its source in the Milanje mountains, thence by this range to the southernmost point of Lake Shirwa, and northward along its eastern shores, including the northern slopes of the Zomba and Malosa mountains, to the upper Shire river, beginning at the lowermost point of the Makololo country, and following the Shire at a distance of 50 miles inland from the river till it meets the Lisungwe river.

Controversy between Portugal and England.—France and Germany made treaties with Portugal acknowledging its rights to the Zambesi and the zone across Africa, which the Portuguese had sought to keep alive as soon as European nations began striving for territorial acquisitions in Africa by sending out expeditions, like those of Capello and Ivens and Serpa Pinto. When an official map was published in which the Zambesi basin was marked as Portuguese territory, the English Cabinet protested that it would recognize no rights based on historical

claims, and became more urgent in its demands for freedom of navigation on the Zambesi. In August, 1887, George Petre, the British minister at Lisbon, presented a dispatch in which it was pointed out that in the region to which Portugal asserted a preferential claim there were countries in which were British settlements and others in which Great Britain takes an exceptional interest. An English naval officer pretended to have found a navigable channel from the sea into the Zambesi by the Chinde mouth. If this proved true, the English were determined to refuse to pay duties, and to declare Nyassaland a British possession. Except in regard to Khama's country and Matabeleland, the British Government at that time advanced no territorial claims, asking only for the free passage of goods to Nyassaland, but said that it would acknowledge Portugal's right only where means were developed for maintaining order, protecting foreigners, and controlling the natives. Perceiving their purpose, the Portuguese enforced more stringently the provincial regulations governing the passage of goods and persons. Mr. Petre, on March 29, 1888, was instructed to complain that the closure of the Zambesi to foreign ships was contrary to the spirit of the Congo act. The Portuguese minister, on June 7, replied that Portugal was willing to admit English vessels to free navigation on the Zambesi provided an arrangement could be made determining Portugal's territorial rights and sphere of interests. The missionaries and traders became involved in a war with the Arabs on Lake Nyassa, and wished to arm the natives under their influence. The Portuguese feared that munitions introduced into the country would be used eventually to contest their sovereignty, and refused to let them go through, except three small cannon and 2,400 rifle cartridges that were permitted to pass the custom house in October, 1888, at the earnest request of the British Government. The British consular representative at Quilimane attempted to smuggle through a lot of war rockets from the royal army stores, and was detected and arrested. In July, 1888, the British Government announced that its sphere of influence embraced Matabeleland, and extended as far as the Zambesi. This was by virtue of a treaty claimed to have been made with Lobengula, and the protectorate was extended to all the tribes whose cattle he stole and whose people he enslaved. The Portuguese Government protested, asserting its traditional claims to the entire region. In September the British claim to Nyassaland was raised in a memorandum in which it was said that Dr. Livingstone was for all practical purposes the discoverer of Lake Nyassa, and that it was owing to him that the districts surrounding it were settled and have since been occupied by British subjects. Senhor Barros Gomes then told the British representative that it was useless to continue the correspondence on this subject, and that Portugal reserved the right of independent action. An expedition was planned to survey a railroad route and to assert the dominion of Portugal over the Makololo, who until lately had paid taxes and received a Portuguese resident.

The river Ruo, where the Portuguese maintained a custom house, had been considered the boundary between the jurisdiction of the Portu-

guese Government and the independent jurisdiction of the missionaries, and the British Government was willing to accept it as the frontier, although south of it was the Blantyre Mission and agricultural settlement in the midst of the Makololo, a tribe sprung from Livingstone's carriers, who had remained in the Shire highlands and conquered the unwarlike people of the district. In August, 1888, the Lisbon Cabinet was advised that Makolololand, as well as Mashonaland, was considered under British influence. In his reply the Portuguese minister expressed reservations regarding districts already under the effective dominion of Portugal. In the spring of 1889 Consul H. H. Johnston was sent to Lisbon to negotiate a delimitation when the Portuguese were about to send an expedition into the district. When the Portuguese Government agreed to accept the Ruo, Lord Salisbury refused to ratify the arrangement, the British South Africa Company having in the mean time conceived the design of extending its operations to the metaliferous district near Lake Bangweolo and joining hands with the missionaries and traders on the great lakes. On Nov. 7, 1889, a royal decree was issued creating the new district of Zumbo, north of the Zambesi, comprising Chitambo and other territories extending to 13° of south latitude, brought under Portuguese influence in 1885, and the territory lying between the Aruanago and the Kafue, and, south of the Zambesi, the district lying between that river and the rivers Sanyati, Unfuli, and Mazoe. Lieut. Cordon had previously passed through the country south of the Zambesi with a military escort, and had raised the Portuguese flag and concluded treaties with the chiefs Chupizira and Manianga, on the upper Manyame, Durcira, on the upper Unfuli, Inhamaconde, of the Magunda tribe, whose dominion extends to 18° of latitude, and Choto, who rules the country between the Unfuli and the Sanhata. On his journey from Zumbo to the Unfuli he came upon ancient ruins of Portuguese forts and mines. Another decree placed the territory of Umzila and the Portuguese districts of Manica and Inhambane under a central administration, with its seat at Quitave, charged with maintaining order with the aid of a military force, and having under it six commissioners for the administrative districts of Manica Inhoaxe, the Buzi valley, Bandiri, Mossarise, the Sabi, and Bilen. South of the Mazoe and east of the Save the country has been for some time under the effective domination of Portugal. Gen. Manoel Antonio, who twenty years ago conquered the Barue chief Makombi, has since coerced the Muzizuru chiefs living between the Ruencya and Mazoe rivers, and in 1888 subdued Bonza and captured his stronghold at Mosangano. Gungenhemo, the son of Umzila, chief of the Gaza Zulus, a ruler as powerful as Lobengula, having 25,000 trained soldiers and the undisputed material for an army of 100,000, has acknowledged Portuguese suzerainty, and the Portuguese flag was accepted in 1889 by numerous chiefs of the interior through the efforts of Gen. Manoel Antonio, Col. Igmeio de Jesus Xavier, a Portuguese African, and Col. Paiva d'Andrada, who traversed northern Mashonaland and won for Portugal the allegiance of other chiefs besides those visited by Lieut. Cordon. The efforts of

the Portuguese were directed to bringing under their direct influence the tribes south of the Zambesi that were not tributary to Lobengula. In defining the boundaries of the new province of Zumbo, of which Lieut. Cordon was made governor, care was taken to exclude those territories which had been declared by proclamation to be within the British sphere and to include all the other territories to which the Portuguese laid claim and which they were bending every effort to occupy effectively according to the rules laid down by the British Foreign Office.

The Marquis of Salisbury, on Nov. 21, 1889, pointed out that the new district of Zumbo appeared to comprise a large part of Mashonaland and an immense tract northward approaching the confines of the Congo Free State and the watershed of Lake Nyassa, and said that, except the stations of Tete and Zumbo, the British Government would recognize no territory as in the occupation of Portugal. Senhor Barros Gomes, the Portuguese Minister of Foreign Affairs, replied in almost a suppliant tone, referring to the cession of the whole region to Portugal in the seventeenth century by the Emperor of Monomotapa, who was converted with his people to Christianity, and to the well-preserved ruins of Portuguese forts, and saying that Portugal, who conquered India and created Brazil, can now only look to the development of her historic domain in Africa for a new and brilliant period for her nationality. Lord Salisbury retorted in his dispatch of Dec. 26 with the observation, that forts maintained in a state of efficiency might be a proof that territory is under the dominion of the power to which they belong, but forts in ruins can only prove that the domination of which they were the instruments and the guarantee is in ruins also.

The Expedition of Serpa Pinto.—In 1888 the Portuguese sent an expedition through the Shire district to Nyassaland, which concluded treaties with some of the surrounding tribes and built a fort at Lake Nyassa. When Consul Johnston's scheme fell through they planned and announced publicly a long time in advance what was called a scientific exploring expedition, against which the British Foreign Office offered no objection. Alvaro Castelões, an engineer in the service of the Portuguese Government, was commissioned to survey a route for a railroad along the rapids of the Shire from Mponda above, where there were a Portuguese military post and a mission of Cardinal Lavigerie's society supported by the Portuguese Government, to Katungas below. Major Serpa Pinto was intrusted with the task of exploring the Arangoa river and spreading Portuguese influence north of the Zambesi in order to forestall the British as Lieut. Cordon and Col. Paiva d'Andrada were doing in the south. But first he was ordered to organize the Castelões expedition and to conduct it to the field of its operations. According to Portuguese accounts, the Makololo for twenty-five years paid tribute to a Portuguese resident named Maryano, and afterward to his son for five years, but in 1884 they revolted, and since then have paid no taxes. The British in the Shire highlands only numbered about twenty persons, and the property of the African Lakes Company on Lake Nyassa was not worth more than \$5,000. While Serpa

Pinto was organizing his expedition, for which he enlisted 350 Landins at Inhambane, the Makololo, who had remained peaceable since their revolt in 1884, began to manifest a hostile disposition toward the whites. In June they blocked the Shire route and fired on a steamer of the African Lakes Company, which returned, and her crew asked for assistance from the military commandant of the Portuguese station at Massingire. Later the steamer continued her trip under the protection of a larger English steamer with armed men on board, declining the assistance of the Portuguese authorities. On July 9 the commandant at Massingire reported that intercourse with the right bank of the Shire continued to be interrupted, and asked for re-enforcements, which the Governor of Quilimane declined to send, fearing that the presence of the forces might appear to justify the reports that had been spread that the Portuguese Government intended to carry on war against the Makololo, thus alarming the chiefs and indisposing them against the Portuguese authority. The expedition to explore a railroad route intended to set out in the beginning of April, but was delayed by the illness of its officers. Major Serpa Pinto reached Mopea with the engineers on June 15, proceeding later to the village of Pinda. He was informed that the Makololo of the Shire would not allow his people to pass above Katungas or to purchase provisions. On July 15 he telegraphed to Quilimane that it was absolutely necessary that the difficulty should be amicably settled, and that it would be a great mistake to raise a conflict with the Makololo. On July 23, 1889, the British consul-general at Mozambique, H. H. Johnston, who had returned after his agreement with Senhor Barros Gomes had been rejected, set out in a steam launch up the Zambesi for Lake Nyassa. He had obtained, under the pretense that he wished to visit the missions on Lake Nyassa, a safe conduct and letters from the Governor of Mozambique recommending him to the attentions of Portuguese officials, especially those of the Shire and south Nyassa, to whom he offered to convey the official correspondence of the Governor. On Aug. 8 he came up with Major Pinto, who informed him that the object of the Portuguese expedition was to improve communications between the Portuguese station at Mponda, on Lake Nyassa, and the sea, and to extend Portuguese influence by treaties with the tribes west of Lake Nyassa and on the upper Loango, which he intended to visit with two thirds of the expeditionary force, leaving the rest to guard the surveying party. As the route was interrupted, he requested the Englishman to take the two engineers up the river on his steamer, which he refused to do. While the Portuguese sent presents and did all they could to conciliate the savages, who had been incited to resist their passage by agents of the African Lakes Company and the Blantyre Mission, Consul Johnston proceeded to carry out his secret mission, distributing British flags among the Makololo chiefs. Serpa Pinto, who was warned by Acting-Consul Buchanan that the Makololo would resist the passage of the expedition, returned to Quilimane, while the engineer Themido went forward to Mupasso, which is below the mouth of the Ruvo on what was acknowledged to be Portuguese territory, with

the boats and stores, and established a fortified camp. Chief-Engineer Alvaro Ferraz with a part of the force marched up on the opposite bank. On Aug. 31, as he approached a Makololo village, he saw armed men. Signaling for a parley, he advanced with four men to meet a negro who came out. When he came within rifle shot he was fired upon. The Landins then attacked, captured, and burned the village, killing six men. Themudo sent word that the Chief Melaure with a large force was coming from the north to attack the expedition. Ferraz crossed the river to unite his forces, numbering 319 men. All the Makololo chiefs, except one, joined Melaure. While Melaure, who was said to have raised 14,000 men, armed in part with Martini-Henry rifles and having an abundance of ammunition, held the Portuguese besieged, parties of Makololo raided the villages of other tribes within the organized administration of the Portuguese authorities. Acting-Consul Buchanan issued a proclamation declaring a British protectorate over the Makololo and Nyassaland. Senhor Ferraz telegraphed to Major Serpa Pinto, who raised a force of 6,000 men at Quilimane. With the advanced guard of 700 on the right and 300 on the left bank of the Shire, with one Gatling gun and one field piece, he advanced in October, and at the Portuguese settlement of Massingire he was attacked on Nov. 8 by 12,000 Makololo, who surrounded the place and continued firing seven hours, and then retreated in confusion, having lost 72 killed. After they first took to flight they rallied and renewed the attack, waving two British flags, but ran away after their king and the two flag-bearers were shot and the flags were seized by the Portuguese. The Portuguese brought up his whole force, and with six mitrailleuses and four pieces of artillery captured Chiloma, at the confluence of the Ruo and the Shire, and then overran the debatable district as far as Katungas. After 300 more of the enemy were killed, the loss on the Portuguese side being 6 altogether, the Makololos gave up all resistance and made their submission, signing a declaration that the agents of the African Lakes Company had incited them to rebel and supplied them with arms. Leaving João Coutinho as military governor of the Shire, Serpa Pinto returned very sick to Mozambique, after occupying Mesue on Jan. 8. British flags that were flying on what was claimed to be Portuguese ground were pulled down by officers of the expedition on instructions telegraphed on Nov. 9 by the Governor-General of Mozambique, and were sent to Quilimane to be given up on demand to the British consul.

The British Ultimatum.—On Dec. 17 Lord Salisbury directed the attention of the Portuguese Government to reports that had reached England to the effect that, after the country had been declared by Acting-Consul Buchanan under British protection, a Portuguese force had attacked the Makololo and made a declaration of war against them and announced their intention of retaking the whole country up to Lake Nyassa. He instructed Mr. Petre to ask for a declaration of the Portuguese Government that its armed forces would not attack British settlements on the Shire river, or upon the coast of Lake Nyassa, or in the country of the Makololo, or in that

under the government of Lobengula, or in any other country that had been declared to be under the protection of Great Britain, and to demand the recall of any Portuguese officer who acted in this manner. Senhor Barros Gomes replied, on Dec. 20, with a long explanation of the events as they had been reported to him, pointing out that the expedition, which was of a purely technical character and not provided with means for waging war, had been disturbed owing to rumors spread and intrigues carried on for the purpose of opposing it, and had been attacked at a point south of the mouth of the Ruo, the boundary proposed by the British Government in the treaty of 1884, which was never ratified, and that the subsequent attack on Major Serpa Pinto's force likewise took place south of the Ruo. He said that the Portuguese Government would not sanction any attack on the British settlements at Nyassa and on the Shire or in the country of Lobengula, but intended to protect its rights in territories belonging to the Portuguese crown and where there are any chiefs dependent on Gunguhenho, and in regard to the proceedings of Major Serpa Pinto it reserved the right of forming a judgment after obtaining the facts. A British note of Jan. 5, 1890, pointed out that a large military expedition entered the country of the Makololo, and that if they attacked it was to defend their territory, and demanded an assurance that there will be no attempt to settle territorial questions by acts of force or to establish Portuguese dominion over districts where British interests predominate; otherwise the British Government would take measures for the adequate protection of those interests. On Jan. 8 the Portuguese minister gave the required assurance, stating that instructions had been given to the authorities at Mozambique to commit no act altering the state of the pending questions, and asked the British Government to issue similar orders to its representatives to maintain the *status quo* until the questions at issue could be settled by mutual agreement. If an agreement could not be reached he proposed that the disputes should be referred to the examination and decision of a conference of the signatory powers of the general act of Berlin. In case this course failed to receive the approval of Great Britain, the Portuguese Government would place itself under the shelter of that act and ask for the application of the article in virtue of which mediation is obligatory and arbitration is optional. Lord Salisbury telegraphed on Jan. 9 that before the reply of the Portuguese Government could be accepted as satisfactory the British Government must know the explicit instructions sent to the authorities in Mozambique, and demanded the withdrawal below the Ruo of the authorities and forces in the country of the Makololo and the removal of all military stations in Mashonaland. On the following day Mr. Petre telegraphed the answer of the Portuguese minister that the most stringent orders had been sent to Mozambique, and that Serpa Pinto and his forces had long since returned. The British Minister of Foreign Affairs, who had received a message on Jan. 4 from Acting Consul Churchill at Mozambique that the Portuguese were still occupying Shire in November and intended to fortify Katungas, and that An-

drada was enrolling an expedition to plant the Portuguese flag where territory was claimed by Portugal in northern Mashonaland, demanded on Jan. 10, without waiting for an answer to his last dispatch, that the Governor-General of Mozambique should be instructed to withdraw all Portuguese troops on the Shire south of the Ruo in the Makololo country, in Mashonaland, or south of the Zambesi, and unless such a dispatch was sent within twenty-four hours the English minister at Lisbon was instructed to leave with the whole diplomatic staff. At the same time the English naval forces at Zanzibar sailed for Quilimane and Delagoa Bay, two men-of-war made a threatening demonstration against St. Vincent, the capital of the Cape Verde Islands, and the two fleets within hail of Lisbon at Vigo and Gibraltar made ready to sail at any moment. On receiving this unexpected *ultimatum* the Portuguese Cabinet, after a meeting of the State Council had been held in haste under the presidency of the King, yielded under protest to the British demands and ordered the evacuation of the disputed territories, reserving the rights of Portugal to the regions in question, and claiming the right to have the question settled by mediation or arbitration under Article XII of the general act of Berlin, which provides that in case of a serious disagreement on the subject of African territories the powers bind themselves, before appealing to arms, to have recourse to the mediation of one or more of the friendly powers, or to exercise the option that is reserved to them of having recourse to arbitration. The excitement caused by the backdown of the Portuguese Government seemed likely to result in the overthrow of the monarchy and the establishment of a republic. The Cabinet resigned, and a new one was formed by Serpa Pimentel, the leader of the Liberal Conservative or Regenerador party, who, on June 6, 1889, had introduced a resolution in the Chamber of Peers affirming the rights of Portugal in eastern and central Africa as based on discovery, conquest, effective occupation, or permanent commercial enterprise, and the political influence of Portugal during centuries past. The indignation of the people against England was universal, and was manifested not merely in violent language and in the boycotting of English goods, but in insults and the violation of the houses and persons of Englishmen, even of the consuls, in consequence of which a British squadron steamed into the Tagus. The new Minister for Foreign Affairs, Hintze Ribeiro, told Mr. Petre on Jan. 18 that the late ministry had on the 12th ordered the evacuation of the posts north of the Ruo and south of the Zambesi. In reply to the Portuguese request for mediation the Marquis of Salisbury wrote on Jan. 28 that the territory in dispute, not being under the free-trade system, did not come within the provisions of the Berlin act, and that if it did Great Britain was the power that had a right to demand mediation, not those who had infringed the act by invading the disputed territory with an armed force to dishonour the flag and kill the allies of the other party to the controversy.

Anglo-Portuguese Convention.—The Portuguese Government had much difficulty in carrying out its engagements, owing to the unwilling-

ness of the local authorities in east Africa, who became more annoying in their treatment of the English, who in turn instigated the vassal chiefs in Portuguese possessions to revolt and furnished them firearms. Lieut. Valadin, of the Portuguese navy, and a custom-house officer were massacred with their escort of 200 native troops by a chief named Mataka between Lake Nyassa and Mozambique. Gungenheimo, who, like Lobengula, denied that he had ceded away any part of his sovereign rights, began to make war on friendly chiefs, and a Portuguese expedition was sent under Capt. Soares d'Andrea in consequence into the Gaza country. A considerable force was concentrated at the Ruo boundary, occupying Chiloma. The English continued to hoist flags in the disputed districts, and stirred up the natives of Makanga and Massangano against the Portuguese. The negotiations between the two governments were continued, and on Aug. 20 a convention was signed in London which was considered so disadvantageous to Portugal that the Chambers refused to ratify it. Great Britain agrees to recognize as the boundary of Portuguese east Africa on the north the river Rovuma to its confluence with the M'Sinje and thence a line running due west to Lake Nyassa. The boundary follows the shore of the lake southward to 13° 30' of south latitude, and thence runs south-eastward to Lake Shiriwa and along its shore to its extreme southeasterly point, from which the frontier takes a direct line to the easternmost affluent of the Ruo, and follows the Ruo westward to its junction with the Shire, and continues westward to a point on the Zambesi above Tete, from which it follows that river to Zumbo, where it leaves the river, passing due south a short distance, in order to leave Zumbo in Portuguese territory, but quickly turning at a right angle to run eastward parallel with the Zambesi. At 33° of south latitude it takes a southeasterly course to 32°, and then follows the Sabi river to the Limpopo, and thence runs along the Transvaal and Swaziland frontier to Delagoa Bay. While in west Africa Portuguese possessions extend to the upper Zambesi and the Kaboupo as their eastern limit, all the central and eastern part of the great region formerly claimed by Portugal is abandoned to Great Britain except the district between the coast and Lake Nyassa, a narrow strip between the Shire and Tete, a wedge of *Hinterland* behind Sofala and Senna, with the south bank of the Zambesi as far as Zumbo, and elsewhere only the coast districts. The British acquire a solid tract extending north of the Zambesi through ten degrees of latitude and reaching from Cape Colony to the confines of the Congo Free State and Lake Tanganyika. Portugal agreed to cede no part of her territory to a third power without the consent of Great Britain, to build a railroad to facilitate communication between British territory and Pungwe Bay, to maintain telegraphic communications between the coast and the river Ruo, to grant absolute freedom of passage across her territory to British territory, to charge only 3 per cent. transit duty, and, in regard to the Zambesi and its tributaries, to declare them free to the commerce and shipping of all nations. From Zumbo to the Katima Rapids both banks of the Zambesi belong to Great Britain, but Portugal acquires the right to construct roads, rail-

roads, and telegraphs near the river to connect her eastern and western possessions, England having in turn similar rights of way and of construction on the part of the lower Zambesi that traverses Portuguese territory.

German East Africa.—The German protectorate had its boundaries fixed at the international conference in London on Nov. 1, 1886. By the agreement then reached the region for which a *Schutzbrief* or imperial charter was granted to the German East Africa Company on Feb. 27, 1885, had a sea face from the Tana to the Rovuma river. It extended to the lakes, taking in the northern part of the western shore of Nyassa, the whole shore of Tanganyika, and that of Victoria Nyanza as far as 1° of south latitude, an area of about 400,000 square miles, with an estimated population of 800,000. The country is divided into the unhealthy coast region, the mountainous region, from 3,000 to 5,000 feet above the sea, and the elevated table-lands. In nearly all parts the land is wondrously fertile. Rice is produced in quantities sufficient for export. Maize is grown mostly in Ukami, coffee in Usambara, cotton in Usagara and Usambara, and tobacco rivaling the Sumatra plant in Chutu, Usambara, and Djagga. Sesame, indigo, caoutchouc, manioc, bananas, and rubber are common products. Large herds of cattle, sheep, and goats are kept in the mountainous districts. Game is abundant, and elephants are found in many places. Among the minerals are iron, copper, gold, and coal. The inhabitants are Bantu negroes, who are peaceable and friendly, especially to those who protect them from the slave raids of the Arabs. They raise cattle and are very skillful in making ornaments and other handicrafts. Most of the stations and plantations of the German Company were abandoned in consequence of the revolt of the Arabs in 1889. Major Wissmann landed in Zanzibar on March 31, 1889. Bushiri, the chief of the rebels, who was secretly encouraged and paid by the Sultan Seyyid Khalifa, was surprised by a nocturnal attack, and the last of his followers were dispersed. He escaped, but was delivered up by the villagers among whom he took refuge, and in accordance with the sentence of a court martial was hanged on Dec. 15. The Germans fortified Pangani, Tanga, and the other recaptured coast stations, sent out flying columns to clear the interior of rebels, marauders, and slavers from the various posts, and a considerable expedition into the distant interior, under Lieut. Freiherr von Gravenreuth. Before the beginning of November the Germans had reopened the principal caravan route to Mpwapwa. The Arab slave dealers were encouraged in their revolt by the East Indians, who have been the bankers and merchants of the country for centuries. There was a slight revival of trade in the northern part of the protectorate before the middle of 1890. The administration of the coast belonging to the Sultan of Zanzibar and the customs were leased to the East Africa Company for fifty years from April, 1888. The Sultan declined to allow the retention of 170,000 rupees a month and 5 per cent. commission as the cost of administration, when the stations were abandoned, except Dar-es-Salaam and Bagamoyo, and the duties were collected in Zanzibar. An arrangement was made in 1890 for a new valua-

tion of the customs on the basis of the average receipts for three years. After the death of Seyyid Khalifa, on Feb. 13, 1890, and the accession of his brother Seyyid Ali, the Germans pressed for a revision of their treaties. The German Government is represented in east Africa by an imperial commissioner, Major Wissmann having been the first one appointed. The sea blockade against the slave trade having been lifted on Oct. 1, 1889, he was ordered to establish what was called a land blockade, the German Government being determined to proceed in Africa with "clean hands" by suppressing the slave trade in its protectorate. His force of 900 African soldiers and 100 Germans, with which, by the aid of the guns of the fleet and a landing force of 200 marines, he captured Windi, Pangani, and Saadani, was increased by enlisting and training new men, and in the beginning of 1890 he had under his command 73 officers, 134 non-commissioned officers, 1,200 Soudanese, 380 Zulus, and 120 Askaris, besides Somalis in police service. The fleet detailed for shore duty and placed under his orders consisted of 4 steam gunboats.

When it was supposed, after the reduction of the revolt that Bushiri had successfully organized from Pangani to the southern part of Usambara, that the northern coast districts were completely pacified, a new rebellion broke out in Usugua under the lead of Banaheri, who collected a formidable army that by some means was abundantly supplied with breech-loading rifles and ammunition. In planning the campaign against the fresh uprising of the Arabs, Saadani was fortified to serve as a base for the operations, and a post was established at Mkwadja. In the first encounter, on Dec. 25, a reconnoitring force under Lieut. Schmidt was led into an ambush, losing 9 killed and 6 wounded, and with difficulty got away. On Jan. 4 Wissmann with 500 troops attacked the fortified camp of Banaheri, 7 miles from Saadani. The Arabs, 1,500 in number, fought bravely for three hours, retiring after 170 shells and 75 volleys were poured into the position and the Germans rushed to the assault. They were not pursued, and when the troops marched away they followed them back to Saadani, firing into their rear. The German loss was 12 wounded.

While engaged in reducing the coast population to submission the Germans developed great activity in extending their influence to the lakes in the north, and especially in reviving trade on the caravan routes. A garrison at Mpwapwa insured the safety of the route by way of Tabora from Bagamoyo to Tanganyika. After Freiherr von Bülow inflicted a defeat on their Masai enemies, the plundering Wasumba, all the Wagogo of this region willingly accepted German sovereignty. An expedition under Lieut. Ehlers strengthened German influence at Kilimandjaro in the country of the chief Mandara and in Djagga, Meru, and Aroasha, making secure a great part of the route from Pangani to Lake Victoria. Emin Pasha, who after his return with Henry M. Stanley's relief expedition disappointed the English by entering the German service, departed from Bagamoyo on April 24 with a force of 200 Soudanese soldiers and a large caravan, accompanied by several German officers. Banaheri, with the greater part of his followers, sur-

rendered to the German commander at Saadani on April 4, and furnished porters for Emin Pasha's expedition. Emin's mission was not to forestall the English in Equatoria or Uganda, but to cultivate friendly relations with the Arabs and with the native tribes within the undoubted sphere of German influence, to protect the Catholic missions established there, and to consider the most practicable locations and means for founding military stations to guard the trade routes and suppress the traffic in slaves. The rifle and the Bible were relied on, Caprivi told the Reichstag, to destroy the slave trade, which could never be stopped till the slave dealers were killed.

Reconquest of the Slave Ports.—The subjugation of the southern coast districts, where the slave trade was still carried on, had been postponed, owing to the renewal of the disturbances in the north, which became entirely quiet after Banaheri was annexed. An additional force of 600 Soudanese was engaged for the operations against the southern ports. The chief of these was the ancient town of Kilwa, whence the export of slaves drawn from the lake countries and the Congo State to Mafia, the Comoros, and Madagascar was not interrupted nor in the slightest degree checked by the blockade. The coast from the Rufije to the Rovuma was declared in a state of war. The "Carola" and the "Schwalbe" opened fire on Kilwa on May 3, and were answered by muzzle-loaders from the strong fortifications on the sea side. Major Wissmann, who had landed 1,200 Nubian troops at Kismani, advanced to the attack from the south, while launches carrying revolver-cannons executed a diversion against the seaward front. This strategic precaution was unnecessary. The wooden buildings of which the city was largely composed were leveled to the ground by a conflagration, the Arab garrison had fled after plundering the stores of the Indian merchants, and these with their families had fled to the fields to escape the bursting bombs. The German troops entered the deserted city and hoisted their flag over its ruins. With the exception of Lindi, the terminus of the caravan route from Lake Nyassa, the Arabs of other places on the coast accepted the German proposals for their capitulation. Several slight conflicts in the neighborhood of Lindi resulted in favor of the Germans, and after an effective bombardment the town was occupied on May 10. Mikindani, farther south, was occupied without fighting on May 14. These three towns were fortified and garrisoned like the stations in the north, viz., Tanga, Pangani, Mkwadja, Saadani, Bagamoyo, and Dar-es-Salaam.

Witu and South Somaliland.—The Sultanate of Witu, having an area of 520 square miles, was made a German protectorate by virtue of concessions granted by the sultan to the German Witu Company, and in 1889 a protectorate was proclaimed over 175 miles of the Somali coast claimed by the sultan, extending to the southern limit of the district of Kismayu belonging to the Sultan of Zanzibar on the river Juba. The Germans, who were already in possession of the caravan routes from the Zanzibar coast, by pushing up the Tana or Juba river could join their territory here to that of the German East Africa Company near Kilimandjaro, shutting off British east Africa from extension

inland, and could extend their influence into Uganda and the Nile region. The English accused the Germans of sharp practice in not abandoning their pretensions to any part of the coast north of the sphere of British influence agreed on in 1886. But the German Government, which could have claimed a large part of the Somali coast by virtue of treaties made with Dr. Jühlke, and had yielded its preferential rights to win British good-will, clung to the district where German interests were established the more resolutely when the English showed every disposition to thwart German enterprises and when the British Government might be driven to support the scheme of a continuous band of British territory from the Cape to the Nile delta. If Great Britain, rejecting the *Hinterland* doctrine, claimed the lake regions behind the agreed German sphere, beyond the line where the first parallel of southern latitude strikes the shore of Victoria Nyanza, then Germany held the key to the British *Hinterland*, and could extend her political and commercial conquests into the Soudan and across the continent till her west and east possessions joined.

Dr. Carl Peters set out with a well-equipped expedition with the ostensible object of rescuing Emin Pasha, another object being to acquire the Equatorial Province and other regions in rear of the British sphere for Germany, but his stores and weapons were seized as contraband at Zanzibar and he was forbidden to land on the blockaded coast by Admiral Fremantle, the British commander. By a ruse he escaped the vigilance of the British ships, and on June 15, 1889, landed in Kwyhu Bay, just beyond the limits of the blockade, marched round behind Lamu to Witu, and with Lieut. Von Tiedemann, 11 Askari guards, 60 porters, and 25 camels and donkeys went up Tana river in the middle of July. An English party, sent out by the British East Africa Company, preceded him to prevent his buying food, which his followers, 8 of whom carried repeating rifles, could only get by fighting. He was attacked by Gallas, was obliged to fight his way through Masailand, and on Jan. 7, 1890, having made treaties with the tribes that he met at Mount Kenia, reached Baringo Lake, where he raised the German flag. On Jan. 30, at Kavirondo, he fell in with a part of the expedition of F. J. Jackson, an agent of the British company who was sent out to make treaties and head off Peters. Jackson was afraid to enter Uganda, where a civil war was raging; but Peters pushed on, and when he learned that Emin had departed with Stanley, he joined the Christian party, who had fled to the islands of Lake Victoria. He helped King Mwanga to overpower the Arabs, drilled his troops, and induced him to sign the Congo act and forbid the slave traffic. Leaving Uganda, he raised the German flag at Usukuma on April 17, fought his way through Neera, followed Wembaere river, which is the southeastern border of the Masai country, passed through Iramba and Ussure, hoisting the German flag in both places, gained a victory in Ugogo with his magazine rifles over 1,500 of the Sultan Makenga's warriors, and arrived at Mpwapa, where Emin Pasha was on the lookout for him, on June 19, having 36 porters and 10 Somalis left.

The possession of Witu became almost valueless commercially when the arbitration of Baron Lambert on Aug. 17, 1889, assigned the control of the island of Lamu, which is the port of Wituland, to the English company. The Belezoni Canal, which a former Sultan of Witu had dug, was delivered up to the British authorities, though not without the German consul-general's bringing pressure on the sultan, who dismissed Curt Toeppen, the manager of the Witu Company, who had acted as his vizier, and reinstated Carl Denhardt. A force of 150 Arabs, forming part of the military forces of the British East Africa Company, was landed to take forcible possession of the canal and custom house and the sultan intimated to Toeppen that if the Germans would not defend him in his rights he would accept the protection and control of the British company. The only remaining chance of profitable development and an outlet to the sea for the Witu Company was in the possession of the islands of Manda and Patta and of Hohenzollernhafen in Manda Bay, where the German flag had been raised. The islands were claimed by the Sultan of Witu and also by the Sultan of Zanzibar, and in the London agreement they had been passed over. In April the Sultan of Zanzibar was persuaded by the Germans to suspend his concession to the British company of these islands, but the representatives of the company affirmed that he had ceded his authority over the territory, and insisted on entering into possession at once. After a new treaty had been concluded between the Sultan Fumo Bakari and Consul-General Michahelles in April, the German Witu Company on May 19 was formally amalgamated with the German East Africa Company, which, notwithstanding alterations in its favor of the contract with the Sultan of Zanzibar, had itself sustained a net loss of 370,000 marks on 3,147,000 marks of paid-up capital to the end of 1889. The German Government, which assumed the cost of suppressing the Arab revolt, had spent directly 5,500,000 marks and thrice that sum indirectly, to April 1, 1890.

The British East Africa Company.—The company formed to occupy, develop, and administer the territory conceded to Great Britain in the Anglo-German agreement of 1886, estimated at 150,000 square miles, and to farm the customs of the Sultan of Zanzibar, was organized under a royal charter, dated Sept. 3, 1888, on the model of the old East India Company. The first concession of the sultan gave to the company the coast from the Umbe to the Ozi river, including Kau and Kipini. In 1889 he further granted all his towns and possessions north of Kipini, comprising the islands on the coast and in Manda Bay, and the ports and districts of Kismayu, Brava, Merka, Magadosho, Warsheik, and Mruti, making a coast line of 700 miles, of which 300 miles, comprising the region north of Juba river, has since been conceded to lie within the Italian sphere of interests, and the ports of Brava, Merka, Magadosho, Warsheik, and Mruti have been transferred to the Italian Government, with provision for a joint occupation of Kismayu. Sir Francis de Winton in 1890 was appointed administrator-in-chief. The company during the period when George S. Mackenzie was administrator rebuilt Mombasa and constructed a

harbor and established stations at Wanga and Melinde; opened the Sabaki river route; built a strong fort at Machaka, half-way to Victoria Nyanza; garrisoned with Soudanese and Indian troops other stations along the route, 30 miles apart; and had begun a railroad 450 miles long, from Mombasa to the lake. When the revolt of the slave-dealers began in German east Africa, the runaway slaves were made free by paying the masters their value out of the funds of the company, which was partly reimbursed by the British Government. Since then a scheme of gradual emancipation has been adopted by which the slaves must earn their own freedom if they have been brought from the interior. Those who are members of the coast tribes with which the company has treaties are declared free absolutely under the law of the Koran forbidding the enslavement of free people. The financial results have been as unsatisfactory as those of the German company, and at one time, when the Government refused to come to its aid, as the German Government had to the aid of its rival, the directors spoke of dissolving. Of the £2,000,000 of capital subscribed, £159,834 had been called in; there were £183,186 of liabilities, and the assets, including estates and plants, were valued at £164,829 on April 30, 1890. The rental of £56,000 per annum that the company agreed to pay the sultan for the customs receipts for fifty years was almost realized the second year. The population of Mombasa has grown from 15,000 to 30,000. Since the new agreement with Germany abundant capital has been offered to carry out the company's plans in the enlarged sphere. The two companies are now competing in the work of improving the communications with the interior. On German territory two railroad lines are in contemplation. Henry M. Stanley, on his march to the coast from Albert Edward Nyanza, in May, 1889, obtained cessions of sovereign rights of several chiefs through whose territories he passed, in consideration of the protection that he gave them against the attacks of the people of the King of Uyoru. These treaties he has transferred to the East Africa Company, embracing the states of Mpororu, Ankori, Kitagwend, Unyampako, Ukonju, Undussuma, and Usongora. The Semliki valley and the territory between Albert Nyanza and Ituri river are also claimed by virtue of his discoveries.

The Anglo-German Agreement.—While the English and the Germans in east Africa were striving each to ruin the enterprises of the other in order to obtain the commercial field and the future empire as far as possible for themselves, and while the citizens of each country were making treaties or raising pretensions behind the sphere of the other, the governments, though desirous of reaping the largest benefits from accomplished facts, were determined still to go "hand in hand" in colonial matters. When the new German Chancellor was seated in his office, Sir Percy Anderson was sent to arrange a settlement of the differences that had arisen, on the principle of give and take, in consultation with Dr. Krauel, the head of the newly created Colonial Department of the German Foreign Office. The German Government demonstrated its serious purposes by sending Emin Pasha to consolidate its influence in the interior

and Major Wissman to reduce to submission the Arab slave-traders in the south, and by obtaining from the Reichstag an extraordinary credit of 4,500,000 marks for these operations and a subsidy of 350,000 marks a year to maintain a line of mail steamers between German ports and the east coast of Africa.

The negotiations begun in Berlin were concluded in London by Count von Hatzfeldt and the Marquis of Salisbury, and the basis of an agreement was placed on the table of the British Parliament on June 13. The Germans urged that the rear country between the limits, north and south, agreed on in the arrangements of Nov. 1, 1886, and July 2, 1887, that is, between the first and eleventh parallels of southern latitude, as far as the eastern frontier of the Congo State, naturally belonged to them as the *Hinterland* of their possessions. The English Government would not accept this principle as applying to the region where there were English missions and stations on Lake Nyassa and at the southern end of Lake Tanganyika and along the Stevenson road, which connects the two. German travelers reported that this road, described by Prof. Drummond as having gradients and cuttings, was originally only a path cut through the woods, and that it had been neglected and disused until it was again closed by tropical vegetation. In the course of the negotiations Germany conceded to the English the region that they coveted in the south, the productive country between lakes Nyassa, Tanganyika, and Bangweolo, concerning which a dispute may arise with the Congo State, as south of 11° of south latitude there have been disputes with Portugal. In the north the Germans made a concession likewise, admitting the English claim to the whole of the semi-civilized kingdom of Uganda and to the valuable mountainous region traversed by Henry M. Stanley, in which he made treaties with the native chiefs. The English representatives advanced the right of discovery in support of a claim to Lake Tanganyika, and Stanley and other colonial extremists urged the importance of securing a continuous belt joining the northern and southern spheres of British interest. This the Germans would not consider, as they desired to have a common frontier with the Congo State and a chance to extend their commerce into the central parts of the continent. The priority of British influence in Zanzibar and the interests of British Indians were acknowledged by acceding to a British protectorate over Zanzibar and the islands of the coast, the Germans obtaining all the sovereign rights of the sultan on the Zanzibar coast. The German dependency of Wituland and the new protectorate on the Somali coast north of the British sphere were transferred to Great Britain. The Wituland colony had already succumbed to the aggressive commercial competition and intrigues of the English. The rights to the islands of Manda and Patta had been referred to arbitration. Yet, even if the decision should be against them, the German colonial people considered that they possessed in the Tana river route the best, if not the only practicable communication with Uganda and Lake Nyassa. A boundary dispute in Togoland was settled by a compromise. In southwest Africa Germany made a material

concession by admitting the British claim to Lake Ngami and Moremi's country, reserving a strip for a competitive trade route to the upper Zambesi region. In return for their complaisance on many points the Germans obtained the cession of the island of Heligoland. (See *GERMANY*, in this volume.) The area added to English possessions through the new agreement was computed at 500,000 square miles, making the total sphere 650,000, exclusive of the upper Nile region and the whole of the country north and east of the Congo State and west and south of the Italian protectorate in Abyssinia and Galalaland, from the first degree of south latitude to the borders of Egypt, from which the dangerous commercial competition, as well as any possible territorial aspirations of the Germans was effectually shut out. The French felt aggrieved at the cession of Heligoland and objected to the contiguity of the Germans to the territory of the Congo Free State, in which they have a reversionary interest. Against these arrangements they could raise no protest on grounds of public law; but it was different in regard to the British protectorate over Zanzibar, the independence of which was guaranteed by a compact between the French and English governments in 1862, and the French Government would not consent to the protectorate until an agreement on colonial matters was made with it, by which the British Government recognized the French protectorate in Madagascar and conceded to France a *Hinterland* in the Western Soudan and upper Niger region. The German sphere in east Africa as enlarged by the new convention has an area of 360,000 square miles.

The agreement was signed at Berlin on July 1. With the view of securing that the arrangement shall not be injurious to any commerce from east to west or from north to south which may spring up, it is agreed that between Nyassa and the Congo State the passage for German subjects and German goods shall be free and exempt from all transit dues, and the same immunity will be secured to English passengers and English goods between the northern end of Lake Tanganyika and the British sphere of influence. It is further agreed between the two powers that in all east African territories subjected to their influence equal rights of settling or of trading shall be conferred by the two powers respectively on the subjects of the other. Freedom of navigation in all the lakes, rivers, canals, and ports is secured to both flags under the Congo act. The subjects of either power may obtain trading and mineral concessions and hold real property in the sphere of the other, and freedom for all forms of worship and religious teaching is guaranteed to missionaries.

In east Africa the sphere in which the exercise of influence is reserved to Germany is bounded (see map in "Annual Cyclopædia" for 1888, page 123):

1. To the north by a line which, beginning on the coast at the north bank of the mouth of the river Umba, runs direct to Lake Jipe; passes thence along the eastern side and round the northern side of the lake and crosses the river Lanne; after which it passes midway between the territories of Taveita and Chagga, skirts the northern base of the Kilimandjaro range, and

thence is drawn direct to the point on the eastern side of Victoria Nyanza which is intersected by the first parallel of south latitude; thence, crossing the lake, it follows that parallel to the frontier of the Congo Free State, where it terminates. It is understood that on the west side of the lake Mount Mfumbiro shall be included in the British sphere; and if that mountain prove to lie to the south of 1° of south latitude the line shall be deflected so as to exclude it, but shall, nevertheless, return so as to terminate at the above-named point.

2. To the south by a line which, starting on the coast at the northern limit of the province of Mozambique, follows the course of the river Rovuma to the point of confluence of the Msini; thence it runs westward along the parallel of that point till it reaches Lake Nyassa; thence, striking northward, it follows the eastern, northern, and western shores of the lake to the northern bank of the mouth of the river Songwe; it ascends that river to the point of its intersection by the thirty-third degree of east longitude; thence it follows the river to the point where it approaches most nearly the boundary of the geographical Congo Basin defined in the first article of the act of Berlin. From that point it strikes direct to the above-named boundary, and follows it to the point of its intersection by the thirty-second degree of east longitude, from which point it strikes direct to the point of confluence of the northern and southern branches of the river Kilambo, and thence follows that river till it enters Lake Tanganyika.

3. To the west by a line which, from the mouth of the river Kilambo to the first parallel of south latitude, is continuous with the Congo Free State.

The sphere in which the exercise of influence is reserved to Great Britain is bounded:

1. To the south by the above-mentioned line running from the mouth of the river Umba to the point where the first parallel of south latitude reaches the Congo Free State.

2. To the north by a line beginning on the coast at the north bank of the mouth of the river Juba; thence it ascends that bank of the river and is continuous with the territory reserved to the influence of Italy in Gallaland and Abyssinia as far as the confines of Egypt.

3. To the west by the Congo Free State and by the western watershed of the basin of the upper Nile.

ECUADOR, a republic in South America, constituted in 1830 on the dissolution of the confederation of New Granada. The President is chosen for four years by 900 electors. The Senate consists of 34 members, two from each province. The members of the lower house of Congress are elected in the proportion of one for every 30,000 of the population by all male adults professing the Catholic religion and able to read and write. Dr. Antonio Flores was chosen to the presidency of the republic on June 30, 1888.

Area and Population.—The area of Ecuador is estimated at 118,630 square miles. The boundaries between it and Colombia and Peru are in dispute. The population is 1,004,651, of whom 60 per cent. are of Indian blood, 10 per cent. of Spanish descent, and 30 per cent. of mixed race.

There are besides the wild Indians of the eastern provinces and on the eastern slope of the Andes, of whom there is no enumeration. Quito, the political capital, has about 80,000, and Guayaquil, the commercial center, 40,000 inhabitants. Elementary education is free and compulsory, and in the 805 primary schools 60,000 pupils are in attendance. The military forces in 1889 numbered 3,000 men.

Commerce.—The import trade is divided chiefly between the English, the Germans, and the French, the share of the United States being about 8 per cent. The exports advanced from 4,915,120 sucres in 1885 (the sucre is equal to the 5-franc piece, though in exchange the value is only 75 cents) to 10,119,488 sucres in 1887, one half of the latter sum representing the cocoa export. Coffee, hides, India-rubber, vegetable ivory, cinchona bark, gold, and silver are some of the other products of the country. The foreign commerce passes through the port of Guayaquil, where 154 steamers, of 176,288 tons, were entered and 153, of 175,639 tons, cleared in 1888. Nearly two thirds of the shipping was British. In the agricultural districts on the western side of the Andes, river steamers built in the United States ply on the Guayas, Daule, and Vinces. A company, which has the salt monopoly till 1898, worth 100,000 sucres a year, has built a railroad from Duran, opposite Guayaquil, to Chimbo, about 60 miles. There are about 1,200 miles of telegraphs in the republic. The monetary circulation consists of about 500,000 sucres in silver coin and 3,000,000 sucres of bank notes, secured by a coin reserve of one third of that amount. Under the coinage law of March, 1884, 1,835,000 sucres in silver had been coined up to the end of 1889.

Finance.—More than half the revenue is derived from import duties collected at the port of Guayaquil, which yielded 2,856,241 sucres in 1887. The next largest revenue comes from the tithes collected on all produce for the church, of which the state retains one third. The last published accounts relate to 1887, when the revenue amounted to 4,479,004 and the expenditure to 4,428,597 sucres. For 1890 the expenditure was estimated at 4,429,236 sucres. The foreign debt, owed in England, was readjusted in 1885, when it had paid no interest for seventeen years, and it has paid none since. The amount, exclusive of arrears, is 9,120,000 sucres. The internal debt, with unpaid interest, is 4,820,648 sucres.

EGYPT, a principality in northern Africa, tributary to Turkey. The reigning Khedive is Mohammed Tewfik, born Nov. 19, 1852, who succeeded his father, Ismail, when the latter, on June 26, 1879, was compelled to abdicate by the English and French governments, which intervened in behalf of the foreign creditors. The Government was thenceforward conducted under the direction of two Comptrollers-General, appointed by France and Great Britain, till 1882, when a military and national revolt, led by Arabi Pasha, was suppressed through the armed intervention of England alone. On Jan. 18, 1883, the Khedive, in accordance with the demand of England, abolished the dual control and appointed an English financial adviser, whose concurrence is requisite in all financial measures, and who has a right to sit in the Council of Ministers and to take part

in its deliberations. The ministry in the beginning of 1890 was composed as follows: President of the Council, Minister of the Interior, and Minister of Finance, Riaz Pasha; Minister of Foreign Affairs, Zulfikar Pasha; Minister of Justice, Fakhri Pasha; Minister of Public Instruction, Ali Mubarek Pasha. Sir Evelyn Baring has been the British Agent and Financial Adviser to the Khedive since the English control and direction of Egypt began.

Area and Population.—The area of Egypt north of Wady Halfa, the boundary determined on provisionally after the evacuation of the Sudan, is 12,976 square miles, exclusive of the oases in the Libyan Desert, the arid region between the Nile and the Red Sea, and El Arish in Syria. The population of the Nile valley and the Delta in 1882 was 6,817,265, including 245,779 nomads and 90,886 foreigners. The foreigners, nine-tenths of whom resided in Lower Egypt, comprised 37,301 Greeks, 18,665 Italians, 15,716 French, 8,022 Austrians, 6,118 English, 948 Germans, and 4,116 of other nationalities. The natives are all Mohammedans excepting the Coptic Christians, descended from the ancient Egyptians, who live to a great extent in tents. They number about 300,000.

The schools, which are supported by fees, numbered 6,639 in 1887, with 7,244 teachers, exclusive of 17 schools maintained by the administration of the Wakufs, which had 2,000 pupils. The number of felons convicted in the courts of Lower Egypt increased from 287 in 1884 to 1,144 in 1888; of other offenders, from 4,846 to 14,968.

Finances.—In the budget for 1890 the land tax and date tax were estimated to produce 5,100,000 Egyptian pounds; professional and urban taxes, 248,000 pounds; customs duties, 1,078,000 pounds; *octrois*, 281,000 pounds; salt and natron taxes, 220,000 pounds; fisheries, 80,000 pounds; navigation dues, 70,000 pounds; railroads, 1,352,000 pounds; telegraphs, 27,000 pounds; port of Alexandria, 110,000 pounds; posts and postal boats, 220,000 pounds; lighthouses, 95,000 pounds; Ministry of Justice, 340,000 pounds; exemption from military service, 100,000 pounds; rent of Government property, 70,000 pounds; Governorship of Suakin, 12,500 pounds; pension fund, 70,000 pounds; other receipts, 205,500 pounds; total revenue, 9,650,000 Egyptian pounds. The total expenditure was estimated at 9,500,000 Egyptian pounds, distributed under the following heads: Public debt, 4,263,095 pounds; Turkish tribute, 678,397 pounds; civil list of the Khedive, 100,000 pounds; civil list of Ismail Pasha, 114,127 pounds; the Khedive's private Cabinet, 60,900 pounds; Ministry of Public Works, 441,910 pounds; Ministry of Justice, 351,490 pounds; administration of the provinces, 351,195 pounds; Ministry of Finance, 125,277 pounds; Ministry of the Interior, 133,438 pounds; Ministry of Public Instruction, 80,337 pounds; other ministries, 124,022 pounds; customs administration, 99,584 pounds; *octrois*, 43,701 pounds; salt and natron, 64,514 pounds; fisheries, 11,381 pounds; navigation, 3,487 pounds; railroads, 637,000 pounds; telegraphs, 34,000 pounds; port of Alexandria, 19,500 pounds; posts and postal boats, 198,606 pounds; lighthouses, 29,720 pounds; public safety, Ministry of War, police, prisons, and army of occupa-

tion, 682,557 pounds; Suakin, 109,000 pounds; pensions, 475,000 pounds; suppression of the *corvée*, 250,000 pounds; other expenditures, 27,762 pounds. The total receipts in 1889 were 9,719,000 pounds, and the expenses 9,523,000 pounds.

The total amount of the funded debts at the beginning of 1890 was 103,426,640 Egyptian pounds (1 £ E. = \$4.97). The 3-per-cent. guaranteed loan amounted to 9,111,100 pounds; it is repayable by a fixed annuity of 307,000 pounds. The privileged debt, 22,206,800 pounds in amount, paid 1,087,000 pounds interest in 1889; the unified 4-per-cent. debt, of which the capital sum is 55,988,920 pounds, paid 2,184,000 pounds. A loan raised in 1888 at 4½ per cent. amounts to 2,268,900 pounds, on which for interest and expenses 130,000 pounds were paid. The Moukabala, or domestic debt, has been in great part repudiated, the creditors receiving only an annuity of 150,000 pounds, which was promised till 1930. The Domains debt, amounting to 5,173,440 pounds, and the Daira Sanieh, amounting to 8,587,480 pounds, are paid from the revenues of those estates, the deficiency in interest, amounting to 175,000 pounds in 1889, being made up by the Government, as well as the annual payment of 34,000 pounds to the Daira Sanieh loan commissioners. The interest on the Suez Canal shares of the ex-Khedive, purchased by the British Government, is 194,000 pounds, which must be paid till 1894, the term for which Ismail Pasha had previously hypothecated the profits. The total charges on the revenue on account of debts, as enumerated above, was 4,261,000 Egyptian pounds in 1889. The tribute and interest together represent an annual drain of 5,400,000 pounds, representing 53 per cent. of the revenue and equal to 45 per cent. of the total value of the exports. The whole of the cultivable soil of Egypt at the market price of land is worth a smaller sum than the capital of the debt. The land tax, which constitutes the largest part of the revenue, is estimated by some at 50 per cent. of the rent value of the land, while others say that it represents three eighths of the gross produce. The financial situation has improved in the past two or three years, prices having risen and the productive area extended. The economical condition of the people is better in many respects than it was in Ismail's time, when they were at the mercy of rapacious officials and deeply in debt to the usurers. The taxes are now fairly collected and paid at the most convenient time. The conscription is conducted impartially, and the price of exemption reduced to one fourth of the former amount. The khedivial decree of Jan. 2, 1890, abolished forced labor in so far as it was still employed in clearing the canals and drains, though not for the dams and embankments. By the law of Jan. 9, 1890, the trade-license taxes were readjusted in such wise as to bear more equitably on the rich, while whole classes of the working people are entirely relieved. Europeans are in future to pay these taxes, the immunities secured by the capitulations having been removed. Joint-stock companies pay ½ per mille of their capital up to a maximum tax of 300 pounds; contractors, the same rate on their contracts; merchants, bankers, lawyers, physicians, engineers, and architects, a fixed tax and a certain percentage of

their rent. The *kourbash*, by which all taxes were collected, recruits obtained, and order maintained, is now forbidden.

The financial accounts for 1889 were in the highest degree satisfactory. The revenue was 9,719,000 pounds, and the expenditure 9,523,000 pounds, leaving a surplus of 196,000 pounds where one of 8,000 pounds had been anticipated. The revenue was 29,000 pounds more and the expenditure 159,000 pounds less than the estimates. The land tax, notwithstanding considerable remissions on lands left unirrigated through the lowness of the Nile, yielded 52,000 pounds more than was expected. The tax was collected much more thoroughly than had been contemplated in the calculations, the arrears being only 40,000 pounds, instead of 130,000 pounds, and in like manner the house tax exceeded the estimate by 48,000 pounds, giving indication of more prosperous conditions than the officials supposed. The receipts from customs were only 585,000 pounds, against 622,000 pounds in 1888, showing the effect of three successive bad years that was not felt in a diminution of imports of foreign luxuries till the third year. The duty on native tobacco yielded 91,000 pounds, instead of the expected 12,000 pounds, the area devoted to it having increased with such rapidity that the Government has now prohibited the cultivation of this exhausting crop, and raised the import duty on tobacco at the same time from 14 to 20 piasters per kilogramme. The disbursements were 79,000 pounds less than in 1888, and 248,000 less than in 1887, notwithstanding 50,000 pounds of extraordinary expenditure for the operations against the dervishes on the Nile. The amount appropriated for the partial abolition of the *corvée* was 250,000 pounds, not including 123,000 pounds received for exemption. Taxation to the extent of 121,000 pounds was remitted, the debt was reduced by 509,000 pounds, and 425,000 pounds were added to the reserve fund. These results in a year following a bad Nile gave Sir Evelyn Baring ground for the conclusion that after a long struggle, during which the solvency of the country remained doubtful, financial equilibrium was at last secured, and justified his promise of further measures both in the way of fiscal relief and of material development. The indispensable condition, he reported in a letter to Lord Salisbury, dated Feb. 20, is that the political situation shall undergo no radical change; in other words, a British army must continue to occupy the country, and the influence of the English Government, which depends on the presence of the army of occupation, must continue to be paramount. He considered it of great importance also that Egyptian questions should be treated on their own merits without reference to the unfortunate international rivalries that have been, and still are, so detrimental to the true interests of the Egyptian people. This official plea for a permanent occupation excited the apprehensions of the Porte and of the French Minister of Foreign Affairs. The latter asked for an explanation, and was satisfied with the disclaimer of Lord Salisbury, who said that Sir Evelyn Baring was not qualified to express the opinions of the British Government.

Conversion of the Privileged Debt.—The fixed annuity payable on account of the prefer-

ence debt provides for interest at 5 per cent. and a sinking fund that will extinguish the debt in 1941. The revenues of the railroads and telegraphs and the port dues of Alexandria are pledged for the payment of this annuity, and should these prove insufficient the deficit becomes a first charge on the revenues assigned to the unified debt, viz., the customs revenue and the taxes of four of the provinces. Sir Edgar Vincent in 1889 effected an arrangement for the conversion of the debt into a 4-per-cent. loan, effecting a saving of 80,000 pounds per annum after deducting the cost of the operation. This could not be done without the consent of the powers. England, Italy, Germany, and Austria gave an unconditional assent. Russia required assurances that the saving should be applied to the reduction of taxation, and, when these were given, also consented. France offered to give her consent on the condition that a date should be set for the evacuation of Egypt by the British troops. Lord Salisbury declining to consider together two totally different questions, France definitely refused to consent to the arrangement. Some months later Riaz Pasha asked for a reconsideration of the question, but M. Spuller, French Minister of Foreign Affairs, replied that since the circumstances were the same France could not alter her decision.

The English then studied a plan to turn this refusal to the disadvantage of the French. The abolition of the *corvée*, or forced labor, on the canals and embankments had been partially effected by Sir Colin Scott Moncrieff, Secretary of State for Public Works, who has had most of the work of cleaning the canals and conduits and repairing the works done by contract labor, which was paid to the extent of 112,000 pounds a year by a tax raised from the persons who were able and who desired to exempt themselves from forced labor. A proposal was made to the Public Debt Commissioners and approved by the powers to substitute for this personal exemption tax and for the Upper Egypt water tax producing 25,000 pounds a year, a general tax of 3 piasters (1 piaster = 5 cents) per acre on the lands benefited, which would yield 150,000 pounds, including 20,000 pounds to be paid on the Domains and Daira Sanieh lands and falling on the Government.

The French Government, being unwilling to stand in the way of a direct benefit to the Egyptian people or to incur the odium of being responsible for an unpopular tax, was easily induced to reopen negotiations. It first demanded that the application of the reserve fund, already amounting to 1,250,000 pounds, to the improvement of the irrigation system should be subject to the direction of a technical commission, in which French engineers should have a part; also that a reserve fund should be set aside for the requirements of the army and the police. The French have criticised the English for treating the Nile as if it were the Ganges; that is, of stimulating the production of the cotton lands by watering them abundantly, but neglecting to restore their fertility by bringing the water to the land before it has deposited the rich alluvial matter held in suspension. The British minister would agree neither to the co-operation of Frenchmen in the Public Works Department nor

to any measure tending to shorten the British occupation. When M. Ribot became Minister of Foreign Affairs, he abandoned the attitude of his predecessors, seizing the opportunity offered by the Turkish *pourparlers* regarding the withdrawal of the British garrison from Egypt to declare his willingness to discuss the financial question by itself, and by enlarging its scope gained the credit of initiating reform, turning the previous discomfiture into a diplomatic advantage for France.

Tigrane Pasha, who was delegated to confer with the French Government, being assisted by Mr. Palmer, accepted without demur the scheme offered by M. Ribot for the conversion of all the funded debts bearing more than 4 per cent. interest. In respect to the application of the economies, the retention of the different debt administrations, the limitation of the new debt to be raised for irrigation works, the fixing of the term of fifteen years, during which no further conversion shall be attempted, and other points on which differences arose, the French minister was supported this time, not by Russia alone, but by all the Continental powers, and thus was placed in a position to dictate the terms of the agreement, which was concluded on May 21, accepted by all the powers, and embodied in a khedivial decree of the same date. The Egyptian Government was authorized to raise, at a rate not exceeding 4 per cent., a sum sufficient to convert or pay off at par the 5-per-cent. privileged debt, the 4½-per-cent. loan of 1888, the Domain mortgage bonds, and the Daira Sanieh debt, and also to produce 1,300,000 Egyptian pounds, of which seven tenths shall be applied to the completion of the irrigation works authorized at the London Convention of 1885 and other works for purposes of drainage and the diminution of the *sharaki*, or uncultivated land, and three tenths to the commutation of pensions and allowances. The saving in interest effected by the conversion will be held by the Caisse de la Dette as a reserve to be employed only for purposes which the powers shall authorize by a later agreement. For the new privileged, Domains, and Daira Sanieh loans the existing guarantees were maintained without modification.

The conversion was effected through Rothschild, the Crédit Lyonnais, the Société Générale, the Ottoman Bank, Bleichröder, and Baring Brothers, at 3½ per cent. The new bonds, of the total amount of 40,000,000 pounds, were issued at the emission price of 91, and advanced to 5 or 6 per cent. above this rate.

The conversion of all these debts results in a saving in interest of 300,000 pounds. Before the negotiations were begun the British and Egyptian authorities had agreed that a part of the reserve fund should be applied to strengthening the military and police forces, though not until it should amount to 2,000,000 pounds. The French Government was expected to place no difficulties in the way of applying 150,000 pounds a year toward abolishing the *corvée* in order to avoid the new impost on the land that is known as the "French tax," because the responsibility for its imposition was laid to the charge of France. The French Government refused to discuss the application of the economies until the political questions relating to England's po-

sition in Egypt were settled; but in consequence of the hostile agitation that was fomented in Egypt when the Egyptian Government in July was about to order the collection of the tax, the French agent announced the willingness of his Government to allow all the economies for the first year to go for *corvée* abolition.

Military Forces.—On Sept. 19, 1882, the Egyptian army, which had been in rebellion, was entirely disbanded by a decree of the Khedive, and in December of that year a British officer was intrusted with the organization of a new force. The Egyptian army in 1889 had a total strength of 9,400 men. It is commanded by British officers, of whom there are 60 in the Khedive's service. The police and the gendarmery, also officered by Englishmen, number about 7,000 men.

The British army of occupation, commanded by Maj.-Gen. Sir James Dorman, had a total strength of 3,300 men on Jan. 1, 1890.

Commerce.—The total value of the imports in 1888 was 7,738,343 Egyptian pounds; the value of the exports, 10,418,213 pounds. This does not include specie, of which 2,038,956 Egyptian pounds were imported and 2,642,900 pounds exported, making the net import 603,944 pounds, against 1,168,678 pounds in 1887. The import of cotton goods was valued at 1,409,574 pounds; other textiles, 774,279; coal, 441,660; hosiery and clothing, 413,242; timber, 315,088; coffee, 296,950; wine, beer, and spirits, 281,989; tobacco, 270,455; petroleum, 262,893; machinery, 261,035; other iron and steel goods, 246,746; indigo, 233,547; fruits, fresh and preserved, 189,070; animals, 170,042; wheat and flour, 128,677; rice, 123,864. The cotton export was 6,823,311 Egyptian pounds in value, against 7,542,567 in 1887, and 7,120,812 in 1886. Cotton seed was exported to the amount of 1,309,743 Egyptian pounds: sugar, 541,168; beans, 469,910; wheat, 305,163; rice, 109,833; Indian corn, 99,665; hides and skins, 79,069; onions, 72,153; wool, 57,783; flour, 49,985; lentils, 19,530; gum arabic, 1,938. The participation of the various countries in the external commerce of Egypt is shown in the following table, which gives, in Egyptian pounds, the values of the imports from and of the exports to each one in 1888:

COUNTRIES.	Imports.	Exports.
Great Britain	2,988,667	6,584,028
Turkey	1,488,281	867,710
France and Algeria	822,138	903,599
Austria-Hungary	153,791	663,792
Italy	249,899	629,763
Russia	397,714	994,674
India and China	510,876	8,677
Greece	95,238	82,089
America	30,897	10,840
Other countries	408,417	247,776
Total	7,738,343	10,418,213

Communications.—The post-office in 1887 forwarded 8,174,000 domestic and 4,742,000 foreign letters, an increase of 211,000 on the total traffic of the preceding year. There were 171 post-offices at the end of 1888. The telegraphs belonging to the Government at the close of 1888 had a total length of 3,172 miles, with 5,423 miles of wire. The number of telegrams transmitted during that year was 666,869.

The railroad network in 1889 comprised 165 miles of double and 944 miles of single lines, in all 1,109 miles, of which 956 miles were in operation. The gross receipts in 1889 amounted to 1,301,529 Egyptian pounds, and the expenses to 585,000 pounds.

Navigation.—During 1888 the number of vessels arriving at the port of Alexandria was 2,283, of 1,587,392 tons, and the number cleared was 2,129, of 1,582,169 tons. Of the arrivals 547, of 693,102 tons, were British; 1,015, of 252,566 tons, Turkish; 148, of 251,477 tons, French; 131, of 163,980 tons, Austrian; 81, of 115,936 tons, Russian; 67, of 57,277 tons, Italian; 136, of 30,900 tons, Greek; 9, of 10,717 tons, Swedish; 31, of 5,926 tons, Norwegian; 2, of 2,798 tons, Belgian; and 3, of 2,683 tons, German. At the port of Suez 463 vessels, of 912,940 tons, and at Port Said 807 vessels, of 917,538 tons, were entered in 1888.

The Suez Canal.—In 1888 the number of vessels that passed through the canal was 3,440, with a gross tonnage of 8,183,313 tons. Of these, 2,625, of 7,335,062 tons, were British; 187, of 576,993 tons, French; 163, of 393,318 tons, German; 146, of 395,624 tons, Italian; 121, of 295,719 tons, Dutch; 58, of 173,212 tons, Austrian; 39, of 67,956 tons, Norwegian; 26, of 99,080 tons, Spanish; 16, of 45,401 tons, Russian; and 29, of 31,694 tons, Turkish. The remainder comprised 10 Egyptian, 7 Portuguese, 6 Chinese, and 3 Japanese vessels, and 1 each from the United States, Belgium, Denmark, and Hawaii. In 1889 the total number of vessels was 3,425 and their aggregate tonnage 8,606,000, 78·91 per cent. of which was British, 5·33 per cent. French, 4·27 per cent. German, 3·87 per cent. Dutch, and 2·76 per cent. Italian. The working expenses are only 1½ per cent. of the revenue. The receipts in 1889 were 69,000,000 francs, and the expenses, including 5 per cent. interest and redemptions, were 32,000,000 francs, leaving a net profit of 37,000,000 francs. The average time of passage has been reduced to 26 hours and 44 minutes. The deepening of the canal to 8½ metres has been completed, and since April 1, 1890, vessels drawing 7·80 metres, or 26 feet, have been able to pass through. The work of widening the canal is going forward. Improvements have cost 51,000,000 francs. A part of the French shareholders have contended persistently against the reduction of the tariff in the interest of British ship-owners that the board agreed to in 1886. This opposition had no success at the meeting of June 3, 1890, in view of the dividend of 91 francs, or more than 18 per cent., that was declared.

General Condition.—The native courts, once so corrupt that rich and poor alike avoided litigation, have been so far reformed that now their dockets are full, although much remains to be done before the administration of justice shall be equal, intelligent, inexpensive, and free from the undue influence of the great. The educational system is still almost worthless, and less attention is paid to it than Mehemed Ali gave. There are not more than 200,000 persons in all Egypt who can read and write. The representative system instituted in 1883 is a mere sham, nor will it be permitted to become a reality so long as the English desire to maintain their grasp on Egypt and the direction of the government is confided to Indian administrators. The

reform in sanitation that was the first thing promised when the English assumed control and abolished the old Sanitary Board, managed by Frenchmen and Italians, has been totally neglected; the towns and the rural districts are in a more filthy condition, the hospitals more dilapidated, the country more frequently scourged by epidemics of typhus, small-pox, and relapsing fevers, the death rate higher than under the old board; and when Egypt was threatened with cholera in the summer of 1890 the highly paid English sanitary officials were all absent in Europe attending to other business. The incidence of the land taxes is extremely unequal, and yet a survey and revaluation after they were begun were abandoned. The people themselves, in spite of certain benefits that they are conscious of having derived from the English administration of the finances and public works and the gratitude that they feel for the suppression of flogging and the *corvée*, are imbued with the national spirit and feel the foreign yoke more galling than when they rose against the joint control. The increase of crime is a significant symptom of the failure of British rule, when it is remembered that under Ismail robbery and violence were practically unknown and that security was established in town and country and even in the wastes of the desert. The introduction of the new tribunals into upper Egypt in 1889, replacing the jurisdiction of the mudirs, mamours, and sheiks, was followed by an epidemic of brigandage. A reform of the criminal courts of Egypt has been undertaken, and the assistance of Justice Scott, of Bombay, has been secured. During the ministry of Riaz Pasha the railroad budget has been increased for the extension of the network by 52,000 pounds; the foreign post-offices, excepting the French, have been done away with; carrier delivery has been introduced in Cairo and Alexandria, and postal routes have been enlarged; a municipality has been established in Alexandria, and the harbor entrance has been improved; the *octrois* have been abolished in Damietta and Rosetta, and the rice tax and other taxes have been remitted to the amount of 121,000 pounds, which is the first reduction of taxation ever known in Egypt; Europeans have been subjected to the house and land taxes; many new schools have been erected; the salaries of teachers and petty officials have been raised; the rate of interest has been lowered from 7½ to 5½ and 5 per cent.; and, chief of all the achievements of the minister and his English coadjutors, the barrage has been completed, the canals have been extended by many hundred miles, and reservoirs and sluices built, 1,000,000 pounds having been spent for these objects in the year 1889 alone.

The Barrage.—The improvement in the Egyptian revenue and the restoration of the financial equilibrium are the result of the extension of cotton culture, and this would not have been nearly so great if Sir Colin Scott Moncrieff had not decided to restore the barrage. The Nile barrage consists of two dams placed across the river where it divides into two branches which flow into the sea, one at Rosetta and one at Damietta. This gigantic work, designed by French engineers and begun in 1843 under the direction of Mougél Bey, was eighteen years in

building, and cost £1,800,000, not taking into account the forced labor by which mainly it was constructed. The dams are pierced by arches, 61 on the Rosetta side, which has a length of 465 metres, and 71 in the Damietta barrage, with a length of 535 metres. The arches are fitted with gates, which are opened when the river is high to allow the water as free a passage as possible through the dam as well as over it, and can be closed during the period of low Nile, so as to hold the water back for distribution through the Delta. The arches on the Damietta side were never supplied with gates. The Rosetta barrage was first tried in 1863, and held the water up to a maximum height of 5½ feet. Crevices soon appeared, a section was undermined in 1867 and fell in, and no attempt to use the barrage was made thereafter. When Sir Colin Scott Moncrieff took charge of irrigation matters in 1883 he determined, against the advice of most experts, to give the barrage a trial before adopting a scheme that was proposed for irrigating Lower Egypt by means of pumps, at an expense of £250,000 a year, besides the initial cost of £700,000. In 1884 and 1885 rotten timbers and rusted iron were replaced with new materials. In the first year the water was raised to the level of 7 feet 2 inches, and in the second year the height at the dam was 9 feet 10 inches, which enabled the canals to be flushed, and resulted in a considerable increase of irrigation. The success of his experiment was such that when the powers in 1885 consented to £1,000,000 being spent in irrigation the first work undertaken was a thorough and permanent restoration of the barrage. A bed of Portland cement 4 feet thick was laid at the bottom of the river, above and below the barrage and under the arches, and this was covered with a stone pavement, while 85 feet up stream a line of piling was carried across the river. The Rosetta barrage was completed in two seasons and the Damietta barrage in two more. The work was finished in June, 1890, having cost in all £420,000.

Cotton Production.—During the five years in which the barrage was incomplete the cotton culture was much extended and benefited by it, the increase in the production, owing to this cause, being more than £800,000 in annual value. The area devoted to this crop in Lower Egypt was 770,423 acres on private land, 47,924 in the Domains, and 5,847 in the Daira Sanieh in 1890. In Upper Egypt there were 85,056 acres of private land, 54,676 acres of the Domains, and 17,206 acres of Daira Sanieh under cotton cultivation. The acreage for the whole country was 855,479, showing an increase of 2,650 acres over the previous year. In Upper Egypt the lands are irrigated by the aid of pumps. The exports of cotton, which in the time of Mehemet Ali were only 27,500,000 pounds a year, were during the American civil war 180,000,000 pounds, and from that increased to an average of 300,000,000 pounds for the past twenty years. In 1889-'90 they were about 330,000,000 pounds. Out of a total of £10,000,000 or £11,000,000 of exports cotton and cotton seed represent from £8,500,000 to £9,000,000, leaving only £1,500,000 or £2,000,000 for sugar, cereals, and all other exports together. The cereal production has constantly diminished since the decline in prices, and of late rice has been

imported from Burmah and maize and barley from Syria. While the Government seeks to promote a diversified cultivation, the fellah cares for nothing but the cotton crop, on which he depends for his rent and land tax, and only limits his acreage by the quantity of water that he can command. French critics are not alone in condemning the facilities that have been given to cotton cultivation as a ruinous expedient. Although the production of cotton has so largely increased, the yield per acre has materially diminished. By the aid of irrigation the yield is twice as large as in the United States, but this rate of production can not be maintained without replacing the constituents of the soil that are necessary for plant nourishment and removing the injurious saline matters that accumulate. For most of the crops that are grown in Egypt the soil is constantly enriched by the red mud that is deposited when the fields are flooded at high Nile. At that season the cotton fields can not be flooded without destroying the cotton, and thus the most exhaustive of crops is grown year after year without fertilization of any sort, for manure is very scarce, and even the cotton seed now all goes to foreign countries. Experts say that the ground will soon become sterile unless the cotton lands are left fallow to be flooded on alternate years. For sugar also the floods must be shut out, and water supplied in the season of low Nile, when it contains very little silt. But sugar is no longer a remunerative crop, and since Egypt has ceased to be a grain-exporting country it is cotton alone that enables it to pay the coupons of the bonds and buy all that comes from abroad. The new works planned by Sir Colin Scott Moncrieff and Col. Ross include a system of flood-water irrigation for the cotton lands by which they will receive the benefit of the red mud. It will be necessary to induce the cultivators of a considerable district to let their farms remain fallow in the seasons when they are flooded.

Anglo-Egyptian Commercial Treaty.—A new treaty of commerce was signed on Oct. 29, 1889, and went into operation nominally on Jan. 1, 1890, taking the place of the treaty of 1861 between Egypt and Great Britain that expired on April 19, 1889. Under the terms of a firman requiring all conventions to be communicated to the Porte before being promulgated, it was submitted to the examination of the Sultan's Government, and was officially published on Feb. 15, 1890. Its provisions remain inoperative till the other powers have concluded similar arrangements. Its main feature is an increase in the import duty from 8 to 10 per cent. on metals, machinery, yarns, mixed fabrics, coal, rice, and certain other articles. The right of the Egyptian Government to fix the duty on every article not included in this list is recognized, and an increase in the tariff on alcoholic liquors and other luxuries is contemplated. The right of search for contraband is admitted, as also is the right of municipalities to levy *ocfros* duties on drinks, provisions, fuel, and building materials, but no duties can be imposed on goods in transit or on patterns. In consideration of the acceptance of the treaty the Egyptian Government promised to reduce the light dues from 85,000 to 40,000 Egyptian pounds. The treaty

remains in force till 1900, and by tacit agreement from that date on until it is revoked by a twelve months' notice from either party. Its benefits and obligations are extended to all British possessions except Canada, Australia, and the south African colonies.

Negotiations for the Withdrawal of British Troops.—When the Drummond Wolff convention was negotiated the Sultan refused to sign it, acting at the instigation of France and Russia. Count Montebello at that time pointed out the prejudice that he would receive as Caliph and as Suzerain of Egypt if he assented to the condition that English troops should be permitted to re-occupy Egypt at any time when the British Government considered that peace and order were exposed to dangers from within or without. In March, 1890, Rustem Pasha, the Turkish minister in London, was instructed to re-open the negotiations, and in May he presented the draft of a convention. Lord Salisbury said that he was prepared to meet the wishes of the Turkish Government by fixing the conditions and the date for the evacuation of Egypt with the indispensable proviso that Great Britain shall have the right to intervene without further notice in the event of any external or internal danger arising, that the British Government shall be the sole judge of the necessity of re-entry, and that no other nation shall have a right to intervene in Egypt in any circumstances. Unless the Porte consented to these conditions and obtained beforehand satisfactory assurances that they would be acceptable to the powers the British Premier did not see the utility of discussing the question further. With this exchange of views the matter rested, as neither Turkey nor France was prepared to concur in the British standpoint. In a note to the powers in relation to the conversion the French Government called attention to the solemn declarations that had been repeatedly given that the occupation was only temporary and would cease as soon as order should be re-established in Egypt.

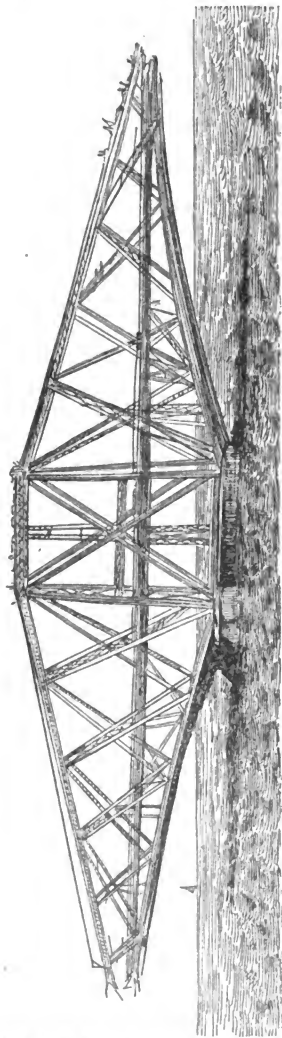
The Soudan.—Khalifa Abdulla, the Baggara leader, supported by all the Baggara tribes and the Jaalins, has ruled the Soudan for years with grinding tyranny, under the pretense of maintaining a pure Mohammedan religion and the independence of the Soudanese from Egypt and Christian domination. Revolts occurred at various places, but they did not shake him in his position, and were easily put down by his Baggara emirs, who are aided by 70,000 well-armed troops. These live on supplies exacted from the more peaceable tribes. A detachment of this force threatened an invasion of Egypt in 1889, and was stopped by a British expedition to Toski. In 1890 no hostile demonstration of the dervishes was made on the Nile. Their advanced post was withdrawn in March to Dulgo, 170 miles from Wady Halfa. A famine was caused in 1889 by drought; 23,000 starving refugees arrived at Wady Halfa, and were relieved by the Anglo-Egyptian authorities, who have settled some of them on Government land. During the winter and spring Bisharis were driven in from the desert by lack of food and water. Commercial intercourse was opened at Assouan, but was not profitable, owing to the poverty of the Soudan. Unusually good crops in Sennaar, the granary

of the Soudan, lowered prices and put an end to the famine, except near Suakin and along the coast. In consequence of the scarcity the iron rule of the Khalifa has been weakened. A serious revolt broke out in the summer of 1890 in Darfur and Kordofan.

ENGINEERING IN 1890. With the exception of the bridge over the Firth of Forth, in Scotland, no engineering work of very great magnitude has been finished during the present year, though many considerable works are under way and promise early completion. The progress of some of these was seriously interrupted by the financial crisis of the autumn and early winter, but these difficulties have in most cases been overcome.

The Forth Bridge.—The preliminary work on this stupendous structure was described in the "Annual Cyclopædia" for 1885, page 328. The bridge was completed and formally opened on March 4, 1890. The construction was begun early in 1883, and the total cost up to the time of completion may be given in round numbers as \$16,000,000. The following statistics are given in a paper on "The Bridge and its History," by Philip Phillips, one of the resident engineers: Total length, upward of 1½ mile; cantilever arms projection (outer), 690 feet; depth of cantilevers over piers, 342 feet; depth at ends, 41 feet; distance apart of lower members at piers, 120 feet; distance apart of lower members at ends, 31½ feet; diameter of largest tubes, 12 feet; top members, distance apart at vertical columns, 33 feet; top members, distance apart at ends, 22 feet; struts, largest diameter, 8 feet; ties, greatest length, 327 feet; central girder, span, 350 feet; central girder, depth at center, 51 feet; central girder, depth at ends, 41 feet; internal viaduct spans, various, 39 to 145 feet; total amount of steel in bridge, over 50,000 tons; south-approach viaduct, total length, about 1,080 feet; south-approach viaduct, average span, 168 feet; wind pressure allowed for, 56 pounds per square foot; depth of water in channels to be spanned, 218 feet; height of cantilever pier (masonry) above water, 209 feet; greatest air pressure in working the caissons, 32 pounds above atmosphere; weight on a single pier, 10,000 tons; thickest steel plates, 1½ inch; length of plates used in tubes alone, 40 miles; greatest depth of foundations, 88 feet below high water; contraction and expansion allowed for, between 6 and 7 feet. The designers of the bridge were Sir John Fowler and Benjamin Baker, civil engineer, and the contractors for the construction were Messrs. William Arroll & Co.

Merchants' Bridge, St. Louis.—This bridge was completed and opened with suitable ceremonies on May 3. The superstructure is in three spans crossing Mississippi river. The approaches rest on piers consisting of four cylindrical columns. The eastern is in three deck spans of 125 feet each. The main trusses are 75 feet high in the center and 30 feet apart, providing room for two tracks, which are placed 12 feet apart. On the city side the approach is of three similar spans, beyond which a steel girder crosses one of the streets of the city, and there is about one quarter of a mile of trestle work. The bridge track is laid with steel rails secured to the ties by interlocking nuts, in order to prevent the



VIEW OF THE FORTH BRIDGE BEFORE THE SPANS WERE JOINED IN THE CENTRE.

creeping of the rails. The bridge substructure includes four granite piers extending from a point 3 feet below low water to 2 feet above high water; above this latter point limestone is used, the whole resting upon caissons and the usual crib work. The first soundings were made in September and October, 1887, and the work was begun on the caissons in January, 1889. The depth of water at the piers was 18 feet when the caissons were sunk into position, but such are the changing conditions of the river that before the work was completed the depth had increased to 42 feet, and the force of the current was so great that the anchorages twice gave way.

Railway Bridge at Cincinnati.—This fine bridge forms an important link in the Chesapeake and Ohio system. Its interest as an engineering work is chiefly due to the length of the individual spans. There were no special difficulties in the way, excepting the necessity of avoiding obstructions to navigation. The central span is 550 feet between centers of piers and 84 feet between centers of cords; this is the largest truss span of this character that has been constructed. The two spans flanking the main channel are 490 feet each between pier centers, with 75 feet between centers of cords. These spans are all planned for a double-track railway with two roadways and two sidewalks; of course this renders it necessary to employ construction of the strongest and most durable description, and there is nothing, either in this country or in Europe, that shows such heavy, non-continuous trusses. All the main parts are of steel, and the bracing in the lateral and transverse systems, with the floor-beams and stringers, are of wrought iron. The system of connection between piers and posts is somewhat novel. All the connections are central and are designed so as to reduce sectional strains to a minimum. The system, which may be termed a web system, has been brought to its present perfection by the Phoenix Bridge Company. The total weight of the iron and steel in the three principal spans is 10,000,000 pounds. The approach on the Kentucky side is 1,533 feet, and on the Ohio or Cincinnati side nearly 2,300 feet, including the many tracks divergent to freight depots. The total structure, therefore, is one mile long, and more than 20,000,000 pounds of metal have been used in the entire work. During the construction of this bridge several floods of exceptional height occurred, and large quantities of drift brought down on the current and lodging against the false work of the bridge often threatened its destruction. At one time the drift formed a continuous mass for more than 500 feet up stream from the bridge, and, in spite of every precaution, a large portion of already constructed work was swept away; fragments of the wreck were scattered for 50 miles down the river. To prevent a recurrence of such a disaster effective precautions were taken, and two lines of heavy piling were run up stream from each of the piers. These formed a V-shaped protection with the acute angle nearly 600 feet up stream. This protection proved to be a complete safeguard during several severe freshets. So actively was the work of repair prosecuted that five weeks after the day of the wreck the entire false work was replaced and regular work

resumed; this in itself is a very creditable feat of engineering, aside from anything in connection with the permanent structure.

It was necessary to sink caissons for the piers on both sides of the channel. These were made in the usual way, each containing more than 500,000 feet of timber. The caissons were both launched and placed in position in 1887, and complete pneumatic machinery and an electric-light plant were placed on two barges and constantly maintained alongside the caissons. As the caissons descended and the air-pressure increased, some difficulty was encountered in rendering the atmosphere endurable for the workmen. Many large boulders, rocks, etc., were encountered and were hoisted through the excavating shafts. A solid concrete wall was built in the middle of one of the caissons at a weak point, and the foundations were finally made as absolutely secure as such a work can possibly be.

North Sea and Baltic, or Holstein Canal.

—For many years the military necessity of a ship canal between the Baltic and North Seas has claimed the attention, first of the Prussians and Danes, and later of the consolidated German Empire. There are already three small canals between the two seas. One of them, the oldest in Europe, was built in the thirteenth century and is still in use. Another was constructed in the sixteenth century, and a third in the eighteenth, having been completed by King Christian of Denmark in 1785. But none of these are true ship canals. The total length of the completed canal will be between 60 and 61 miles, special attention being given to the construction of easy curves, with radii of 5,000 and 6,000 feet. Especial attention is given to this feature, as it is of the highest importance that large steamers shall be able to pass without hindrance around any of the curves at a uniform rate of speed. This purpose is further facilitated by the fact that the canal is a through cut, having merely tidal locks at either end. The mean range of tides in the Baltic is 1 foot 8 inches above and below the canal level, and in the Elbe 4 feet 6 inches above the same level. This last, of course, gives a surplus of water at certain hours of the day, which must be controlled by locking arrangements. The canal was formally inaugurated, not opened, by the German Emperor in June, 1887. The line passes from the Elbe through swampy land, gradually rising to the height of 82 feet above the sea; the descent thence leads to the Eider river, taking advantage of a natural chain of lakes, until it reaches the old Eider canal, which has been enlarged. At Brunsbattel, on the Elbe, there will be three locks of different sizes, the largest 1,180 feet long by 196 feet wide. At the Baltic one large lock will serve for vessels of all sizes. The machinery will be worked by hydraulic power. Several railroads and highways cross the canal on drawbridges. The total estimated amount of excavation is 67,000,000 cubic yards, and the estimated cost of the entire work is \$39,000,000. This sum is considerably in excess of what would be required in a canal intended merely for commercial uses; something like a third of the cost is necessarily added to make it practicable as a military work. The estimated annual cost of maintenance is somewhat less than \$500,000. Vessels coming from England save in distance,

time, and pilot dues, the long voyage at mark being avoided. This saving, in fact, will be as much as 425 miles, which means twenty-five to thirty hours for steam about four days for sailing vessels. An unknown quantity must also be considered, as, on an average, 200 vessels are annually wrecked in the North Sea, and of these the canal may save a large percentage. The North Sea and Baltic traffic is variously estimated from 35,000 to 40,000 vessels annually, the aggregate registration exceeding 12,000,000 tons.

The Manchester Ship Canal.—This is now so near completion that it may be regarded as one of the engineering works of 1890. From the first proposition contemplating the building of this canal, considerable opposition was made by the commercial interests of Liverpool and along the Mersey river, because it will undoubtedly reduce the importance of Liverpool as a port of entry. This opposition worked so efficiently in Parliament that the passage of the canal bill was delayed for several years. In 1887 it was overcome, and since then the work has been prosecuted vigorously. The contract time for its completion was four years. In total length the canal is somewhat more than 35 miles from the Mersey to the city of Manchester. Its completion will practically make one of the great inland manufacturing centers of England a seaport, readily accessible through the tidal estuary of the Mersey. The canal naturally divides itself into a tidal section, that from Eastham through the Mersey to Runcorn, thence 8 miles inland, with a bottom width of 100 feet and a depth of 26 feet at low water. The second section, the canal division proper, from Warrington to Manchester, is 15½ miles, with the same dimensions and a surface width of 300 feet. There are four sets of locks, in groups of three, with intermediate cuts, so that any vessel in existence may be passed without waste of water. The greatest elevation of the canal is 60 feet. The total amount of excavation is about 48,000,000 cubic yards, and the contract price of the work is \$30,000,000; 15,000 men, 70 steam shovels, 50 steam cranes, 150 locomotives, and several thousand cars have been constantly employed, the average monthly record being about 1,000,000 cubic yards. The engineering work throughout has been organized with the greatest precision.

The Corinth Canal.—Historically this is one of the most interesting canals in existence. A narrow isthmus separating the waters of the Ægean Sea and the Gulf of Lepanto tempted the early canal makers as long ago as 628 B. C. Surveys were made some centuries later across the isthmus, and the Emperor Nero actually began the work. Evidences of these early excavations are still visible on both sides of the isthmus. But the high elevation of the central plateau prevented the completion of these early works. The present canal, now approaching completion, was begun in May, 1882, the King of Greece turning the first sod with due ceremony, and the Queen setting off the train of dynamite mines. The canal will be 4 miles long, with a surface width of about 92 feet and a bottom width of 52 feet. The depth will be 28 feet, making it available for vessels of the deepest draught. The depth of cutting at the highest part of the isthmus

thus will be 228 feet. Lack of funds and defective organization have rendered the progress of the work slow, when compared with similar works driven by modern machinery under competent direction. A maximum force of about 3,000 men has been employed, with 15 locomotives, 700 cars, and 6 or 8 dredges. The largest day's work was about 10,000 cubic yards, and the total estimated amount of excavation will be somewhat in excess of 11,000,000 cubic yards. The line of the canal is perfectly straight, and about 4 miles from gulf to sea. The original contract contemplated the expenditure of \$5,280,000, but this proved inadequate, and the total cost will probably be about \$12,000,000. This canal will shorten the voyage from Turkey in Asia into the Adriatic Sea by 185 miles, and for vessels coming through the Straits of Messina by 95 miles. It is estimated that 4,500,000 tons will annually make use of the canal.

Separable Ships.—An ingenious system of ship construction has been introduced on the Great Lakes. A large steamer, the "Mackinaw," of 3,578 gross registered tonnage, was finished in October by the Steel Steamship Company, of Saginaw, Mich. The vessel is 290 feet long, 41½ feet bottom, and 26 feet molded depth. She is of steel throughout, and is a double-bottomed water-ballast vessel, designed to class A1 for twenty years. The peculiarity in construction is that she is designed to be taken apart amid-ships, so that she can pass through the locks of the Welland and other canals, and be put together again on reaching Montreal. In point of fact, she left the building yard under her own steam, and was put in dry dock on reaching Buffalo. A row of rivets was cut out all around her mid-ship section, and the two halves were separately floated out of dock. The after half proceeded, stern foremost, under its own steam, to the canal; while the forward section was towed by two ordinary tug boats and kept company with its better half, through Lake Ontario and the lower canal, until the two could be rejoined at Montreal, whence the vessel went to sea as a complete ship. The owners of the ship are F. W. Wheeler & Co., of West Bay City, Mich., and the work of construction, disconnection, etc., was conducted under the superintendence of Mr. Williams, a member of the firm.

Marine Engineering.—The steamer "Ulunda," of 1,800 tons, went ashore on Aug. 26 at Brier Island, in the Bay of Fundy. Her bottom plates were badly stove on rocks, and she was considered a total loss, and, having been abandoned by the underwriters, she was sold where she lay to a Halifax company for \$3,000. Shortly afterward she was still further damaged by a storm, all the bottom plates forward of the engines being knocked off. The purchasers bolted pine planks to the under side of the second deck, calked them, and at low tide placed 1,200 empty casks in the hold; as the tide rose, the vessel floated. She was towed to Westport, where she was beached and fitted with a temporary wooden bottom, and proceeded thence under her own steam to Halifax, where she has been repaired.

Another noteworthy case of marine engineering is that of the British war-ship "Sultan," which ran upon an uncharted rock near Malta. She sank in water of such depth that all her

deck works were submerged. Several unsuccessful attempts were made to raise her, her great size rendering ordinary appliances unavailing. Her displacement when armed and loaded is 9,200 tons. She is 325 feet long, 59 feet beam, and ordinarily draws 27 feet of water. When sunk she had her full battery of eight 18-ton muzzle-loading guns on board, and four 12½-ton guns, besides the usual complement of breech-loading and quick-firing guns. Observations of divers show that the starboard side of the ship was indented in all directions, the plates being in many cases forced up through the double bottom, and the longitudinal frames twisted in every direction. The difficulty of floating the ship, even after her battery was removed, was increased by the fact that she was literally wedged between two beds of rock, so that portions of the rock had to be blasted away before the divers could examine parts of the hull. This was finally accomplished, and the openings were temporarily stopped by means of wood, canvas, and oakum, a new cement being used which hardened under water to the consistency of putty, and made temporarily tight some of the rents that could not otherwise have been stopped. This done, the ship was successfully pumped out, floated, towed to Malta, and eventually taken to England for repairs.

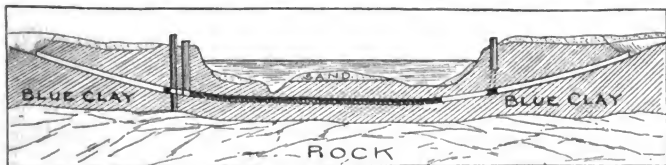
New Docks at Southampton, England.—The Southampton Dock Company has been in existence since early in the present century. It began its first docks in 1838, and opened them for business in 1844. Since then the shipping requirements of the port have largely increased and compelled additions to the docking facilities of the company. The docks are at the mouth of the river Itchen, and, as originally designed, afforded ample accommodations for the shipping of that period. There is a curious phenomenon of double tides at this port. In addition to the usual regular tidal movements, there is a second high water about two hours after the first. This is accounted for by the peculiar conformation of this part of the coast, and has to be considered in the construction of docks. The new deep-water dock, opened by the Queen on July 26, has an area of 18 acres; it is of an irregular quadrangular shape, the northwest and northeast and southwest wharves being 850 feet long each, and the southeast wharf 800 feet. The entrance, opening to the southeast, is 175 feet wide, with side walls 200 feet long. At low water there is 26 feet of depth in all parts of the dock, so that the largest vessels likely to be built for many years to come can be safely moored alongside the wharves, with direct connection by rail in all cases. Alfred Giles has had charge of the work as superintending engineer.

The Ferry Boat "Bergen."—A new type of ferry boat has lately been placed in service on the Hudson river, between New York and Hoboken. In size she does not differ materially from the ordinary paddle-wheel boats used in this neighborhood. The novelty of her construction consists in a long propeller shaft running lengthwise of the boat and provided with a screw at either end. The propellers, therefore, are rotated together, one pulling and the other pushing, a single compound engine driving the machinery. The advantages claimed are, first, that the engines

and boilers are all below deck, so that the space usually occupied by them is saved for passengers and teams. The estimated saving in these respects amounts to about 20 per cent., the room being chiefly gained for trucks and carriages. The absence of the side wheels also opens the passenger cabins throughout the length of the boat, the troublesome narrow passage between the cabins fore and aft being done away with, increasing the capacity for passengers about 35 per cent. Many attempts have previously been made to employ boats with propelling screws at both ends, but heretofore they have not been very successful. The "Bergen" has been in use for some months, and appears to fulfill all that was expected of her. It has been found that one of the chief obstacles to ferry navigation in this latitude is the accumulation of ice in the ferry slips. This ice, when it is ground up into small and partly spherical pieces, forms to a great depth in the slips, and paddle wheels are often powerless to overcome its resistance. It has been customary for the ferry companies to keep tug boats with screw propellers on purpose to drive the ice out of the slips, so that the paddle-wheel boats could do their work. The new boat with a screw at either end, both working in the same direction, creates powerful submarine currents, which carry the ice toward the

coal and iron from the west Superior region down to the lower lakes. Capt. Alexander McDougall is the designer of what are known as whale-shaped freight carriers, a considerable number of which are already in service on the lakes. He has lately constructed a tow steamer especially designed for handling these barges. She is similarly shaped and carries a powerful engine, and it is estimated that in fair weather she can tow as many as 100 of the barges referred to. Should these expectations be sustained, this may revolutionize the coal and iron-ore trade of the lakes, since it would probably largely underbid the present steel and wooden ships in this line of business.

The St. Clair River Tunnel.—The enormous increase of traffic over the Grank Trunk Railway, of Canada, and the connecting lines in the United States, made it obvious several years since that other means of transit than a steamer ferry were necessary across St. Clair river. Surveys were made contemplating the construction of a bridge; but, owing to the extreme flatness of the country on both sides, this was found impracticable, because of the great height necessary to allow free navigation in the river. Moreover, the current is so swift (eight miles an hour, at times,) that any possible structure in the nature of a bridge would be liable to damage when



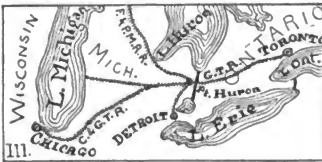
ST. CLAIR RIVER TUNNEL.

stern of the boat and empty the slip of ice in a few minutes. A series of preliminary experiments, comparing the efficiency of this new type of boat with the old side-wheelers, gave results favorable to the new type, both in consumption of coal and in speed. An additional advantage may perhaps be taken into account as suggested in a paper read by Capt. Zalinsky before the Naval Institute, in which he emphasizes the utility of ferry boats for harbor defense, saying that the pneumatic dynamite guns may be mounted on them. Their light draught, great strength, and good speed would render them very effective for coast-wise operations. The wide, overhanging guards would render it possible to introduce armor of some kind, so that the boats could be protected against torpedoes. The typical ferry boat was used extensively during the civil war, and proved highly efficacious for river service.

Towing Steamers.—It is within comparatively few years that it has been discovered that a steam engine of given power can do a great deal more efficient work when set up in a tow boat than when placed independently in a large vessel. The development of towing has made rapid progress in the Great Lakes of late years, and tow barges of a new model have been introduced, devoted mainly to the transportation of

the ice broke up in the spring. At length the construction of a tunnel was decided upon, to cross the river from Port Huron, Mich., on the American side, to Sarnia, on the Canadian side. A company was formed in 1886, test borings were taken on both sides of the river, and attempts were made to begin the main tunnel by sinking large preliminary shafts. These shafts soon entered a stratum of soil that seemed to be a mixture of clay and quicksand. It was so very difficult of management, and the pressure on the sides of the shafts was so tremendous, that at last they had to be abandoned and filled up with sand in order to prevent dangerous subsidence of the surface under adjacent buildings. Excavations were then begun to approach the tunnel entrance by a gently inclined plane, and when a sufficient depth was reached Beach hydraulic shields were introduced, and the work proceeded with remarkable dispatch. These shields were designed by Alfred E. Beach, of the "Scientific American," and patented in 1869. The first excavation was made under the streets of New York, with a view to an underground railway; but that design was abandoned, and only an experimental tunnel was constructed. The St. Clair Tunnel has now so nearly approached completion that it may be counted as one of the

great engineering works of the year. The special construction of the hydraulic shields need not here be described in detail, as the prin-



MAP SHOWING LOCATION OF TUNNEL.

ciple has long been known to the engineering profession. Substantially it is a section of large pipe surrounded by another movable section of pipe, the latter having a cutting edge and being capable of movement through the action of powerful hydraulic rams. The cutting edge is thus pressed through the soil, and a compartment between the movable section and the fixed section gives working room for several men who throw the material excavated back into the fixed tunnel whence it is transported to the heading on small cars. Two shields of this description were used, one at each end of the tunnel, and the two met, their circular edges coinciding almost exactly, under the middle of the river. The very difficult soil mentioned in connection with the experimental shafts extended all the way under the bed of the river, and was at times so nearly fluid as greatly to delay the progress of the work. Experience taught the engineers how to deal with it, and no serious accident occurred during the period of construction. The chief obstacles encountered were due to the occurrences of large boulders imbedded in the clay, against which the advancing shields occasionally struck. Blasting was impossible under the existing conditions, and accordingly they had to be split by hand drilling and wedge work or other primitive devices. Masonry is not employed in the tunnel proper, the entire excavation being lined by flanged, segmental cast-iron plates (see figure). The flanges



SEGMENT OF CAST IRON OF WHICH TUNNEL IS COMPOSED.

rest against one another, and bolts are passed through the holes of each two contiguous segments. Thirteen of these cast-iron segments complete the circle of the tunnel, with a small key segment at the crown of the arch. Each segment is 4 feet 10 inches long, 18 inches wide, and 2 inches thick; the flanges are 6 inches deep inside, and $1\frac{1}{2}$ inch thick; the segments are cast with 32 bolt holes in each, the bolts being $\frac{3}{4}$ inch in diameter. This makes an exceedingly strong structure, and with proper precautions against oxidation should be practically indestructible. The total length of the tunnel is 2,267 yards, of which 777 yards is under the American side of the river, and 770 yards under the Canadian side. The central section of the

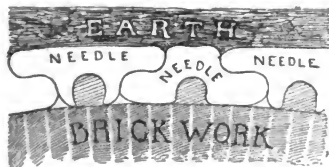
tunnel under the river is nearly level for about 500 yards, but at either end there is a gradient of about 1 in 50 until the approaches are reached. The length of the grade on the American side is 1,633 yards, and on the Canadian side 1,657 yards. The minimum thickness of the river bed above the tunnel is 15 feet, and the maximum below the surface of the water 664 feet. The cross section of the tunnel is circular, with an interior diameter of 20 feet, admitting but a single line of rails. The total cost at the beginning was estimated at about \$2,500,000, of which the Dominion Government granted the company a subsidy of £77,625. The latest attainable figures show that about 200,000 cars were transferred by ferriage across St. Clair river in the year, an average of over 500 a day. It is evident that the tunnel will largely facilitate the regularity desirable for this enormous traffic. It is extremely probable that increasing business will necessitate the duplication of this tunnel before many years. The work of construction has been under the charge of Joseph Hobson as chief engineer.

In this connection it may not be amiss to call attention to the different interstate relations of the United States and Canada, and of Great Britain and France. In one case a tunnel is built with hardly a word of protest; in the other Parliament can not be induced to grant a permit for construction.

Tunnel and Electric Railway.—One of the great tunnels of the year passes under some of the most densely populated portions of London, from King William Street, in the "City," under the Thames, to Stockwell, about three miles, with intermediate stations. The company has the chartered right of way to Clapham Common, one mile farther. The line is tunnel work throughout. It was opened to the public on Oct. 28. The work of excavation was done by a movable shield of the Beach pattern, similar to that used in the St. Clair River Tunnel, an American invention long familiar to our engineers. Most of the line passed through stiff clay, such as underlies a large portion of the city. Owing to the importance of preventing any subsidence at the surface of the earth, it was necessary to force grouting cement into the space surrounding the cylinder. This was accomplished by an opening in the segmental iron plates lining the tunnel, through which the cement was forced at a high pressure. The end of the line near King William Street station is peculiarly arranged, owing to the value of horizontal space. Two tunnels are made, one for public traffic and the other for railway traffic. At the start these are placed one over the other, but the relative position changes while passing under the river, and they are side by side before reaching East London. The tunnels are 10 feet and 6 inches in diameter. Electricity is used throughout as a motive power. There are three large generating dynamos of the Edison-Hopkinson type, each worked independently by an engine of 375 horse-power. The efficiency of the dynamos is 95 per cent., and the measured applied efficiency of engine and dynamo is 75 per cent. There are fourteen electrical locomotives for the traction work, each intended to develop 100 horse-power and a speed of 25 miles an hour. The armatures of the loco-

motives are constructed so that the shaft serves as the axle of the locomotive, a device suggested by the late Sir William Siemens, but not before used in the British Islands. The locomotives have a motor on each axle, and collect the current through an ampère metre, returning it to the rails through regulating and reversing switches, magnets, etc., thus completing the circuit. Each train will weigh about 30 tons loaded, and 10 trains can be worked at once. The construction of the work has been under the charge of J. H. Greathhead, civil engineer.

Tunnel of the Great Northern Railroad Company.—Increasing traffic made it necessary to construct a short tunnel, passing under some of the heaviest business buildings and the busiest streets of the city of London. Some special system of construction was necessary, in order that traffic might not be interrupted. The plan adopted was the invention of Messrs. Jennings and Stannard. Instead of the ordinary timber work used in tunneling, steel bars, technically called "needles," were used; cross sections of these are shown in the following illustration.



TUNNELING-NEEDLES.

Each needle is 10 feet long, 6 inches wide, and 2 inches thick, so arranged that when laid side by side overlapping they admit free longitudinal motion and can be adjusted to fit an arch of any radius. When the initial excavation is made the needles are inserted like ordinary tunnel bars covering the crown of the arch. Brick work is built up immediately under the needles, and each needle can be forced forward by means of screw-jacks. Longitudinal cavities extend through the needles, so that grouting can be forced into the spaces that are left as they advance. The excavation is made exactly the size of the tunnel, plus the thickness of the needles. At King's Cross Station the line ran under the freight yard, only three feet of earth remaining between the crown of the arch and the surface, on which very heavy traffic was continually passing. Tunnels or drive-ways made after this manner are less expensive, and, in many ways, more convenient. For instance, in the case of sewers, the exact shape can be made at once, instead of driving a square heading at first.

Lumber Flumes and Chutes in California.

—The enormous extent of logging operations in the red-wood country of California has necessitated a special system of engineering as these magnificent trees disappeared from the immediate neighborhood of the coast and the natural water ways. No one can witness the reckless destruction of these superb forests without regretting that improved systems of cutting, shipping, and handling can be brought to bear upon them.

The forests are disappearing so rapidly that two or three generations may witness their extinction, unless wise legislation can be introduced in time to save the red woods. Some of the engineering operations are ingenious and interesting. The country being very hilly, great care is taken in felling the timber, and the enormous size of the logs renders it extremely difficult to transport them to a market. On entirely level ground it does not pay to haul logs more than a quarter of a mile, since it takes 12 or 14 cattle to a log; moreover, a road must be prepared, and it is usually cheaper to run a short railroad directly into the timber. This has been found to be very expensive work in a hilly country, and within a few years the construction of lumber flumes has been largely introduced. These are most extensively used in the northeastern part of the red-wood district. The flumes are all constructed on what is known as "the V section." They are made of boards, 20 inches wide, battened on the outside wherever necessary. The V is 5 feet across the top and supported by ordinary staging work, usually somewhat rough. The flumes sometimes run for long distances at an angle of as much as 45°, but, in order to check the rush of the lumber, it is necessary that a long stretch of level flume should always follow these steep descents; in these the water reduces its velocity to a manageable rate. A flume can be built and put in operation at an expense of about \$5,000 a mile, though the cost is sometimes \$15,000 a mile, according to the amount of timber work and excavation. These flumes will carry about 100,000 feet of lumber and 50 cords of wood a day. For operating, one man is required for each 5 miles of flume, and a foot way is constructed along the entire length. The average speed of water approximates 5 miles an hour.

One of the largest flumes now in operation is known as the 60-mile flume, near Chico, Cal. It is constructed substantially on the plan indicated above. As an accessory to the flumes, chutes are common, especially on those sections of the coast where it is impossible to load vessels from the wharf. In many instances, indeed, there are no harbor facilities whatever along this coast, nor is it possible to construct them without great expense. The presence of dangerous rocks compels vessels to anchor several hundred feet off shore, and the ceaseless swells that roll in from the Pacific further complicate the problem of safely delivering large logs from the high bluffs of the shore. The stationary work of the chute generally extends two or three hundred feet from the land, with an attachment called an apron extending from 40 to 90 feet farther. The chute proper is constructed on lofty timber underpinning, with guys reaching in either direction, and anchored to the shore in order to prevent dangerous swaying from side to side under the influence of the breaking sea. The apron, so-called, is made fast to the end of the chute by very heavy hinges and by guys extending to supports built upward from the main scaffolding. The guys are arranged as running rigging passing over blocks and raising or lowering the apron, according to the condition of the sea or the height of the tide. The apron is usually held at the height of 5 or 10 feet above the rail of the ves-

sel, thus allowing the vessel to rise and fall that distance without interference. A contrivance called a brake is attached to the lower end of the apron and operated by a set of levers connected with the chute. From 7 to 10 men are required to handle lumber from the tracks or cars to the deck of the vessel, and for a gang of this size 50,000 feet is considered a good day's work. The cost of a chute is from \$2,000 to \$6,000, according to the difficulties.

Wire chutes have lately been introduced, since they are found to be much more convenient in case of heavy on-shore winds. A vessel pitching violently at her anchor can be loaded almost as easily as if she were lying in smooth water. Three-inch flexible steel-wire ropes are used. These are passed around a drum, which is driven by a donkey engine, thence out between the vessel's masts, resting on supports connected with the masts, and so arranged as to be raised or lowered. The main wire rope then extends some distance beyond the vessel, and is securely anchored to the bottom of the sea. On this rope a traveler works back and forth carrying the load down the wire by means of a series of wheels. The traveler, of course, is fitted with a set of chains and hooks and hoisting tackle, by means of which the lumber in any form can be picked up and delivered easily on deck. Of course all possible precautions are taken for the security of the cable anchors, and of preventing the vessel from dragging her own anchors and fouling the wire chute. One advantage of the wire chute is that its peculiar elastic construction allows it to move with the vessel in stormy weather, which, of course, is out of the question with a stationary chute. Moreover, it works far more rapidly than the other kinds of chutes, and is capable of carrying from 1,500 to 2,000 feet of lumber at a load, delivering as many as 1,000 railroad ties in an hour. Seven or 8 men are required to operate the wire chute, and the expense of its construction does not vary greatly from that of a less scientific variety.

Submerged Railway on the Coast of Spain.

—Somewhat similar in its general purpose to the lumber chutes on the coast of California is the submerged railway connected with the mines of Onton, near Bilbao, on the northern coast of Spain. These are rich iron mines, long worked, but, as the coast is extremely precipitous and difficult, great trouble has heretofore been encountered in shipping the ore. At the foot of the steep rocks is a sloping bottom, which extends some distance at an even grade. On this incline a railroad bed was made, about 650 feet long and 20 feet wide, and on this two sets of parallel tracks were placed, making a four-rail road. The grade is 5 feet in 100. The car that traverses this railway is a high metallic pyramidal tower, mounted on four sets of wheels running on the fourfold track described. The platform on which the load of mineral ore is placed is about 70 feet above the track, high enough, that is, to rise well above the decks of ordinary vessels. This tower, while movable on its wheels, is of course practically stationary as regards the action of the sea. The ore, therefore, can be delivered by simple inclined chutes from the mouths of the mines and loaded upon the upper platform of the tower. The motive

power is furnished by gravity, the loaded tower running seaward by its own weight, controlled, of course, by brakes and cables connected with the shore. To draw it back when empty, the power of a gravity road on shore is employed. Several weighted cars are placed on an inclined plane for this purpose, the connection with the tower being made by strong cables running over sheaves. The tower thus works, loads and unloads itself almost automatically, and the railway operates without difficulty. When the sea is extremely rough, mooring buoys are provided at the outer end of the railroad, to which vessels can be made fast. The credit of this undertaking is due to D. M. Alberto de Palazio. The platform carries for its load about 100 tons of ore, and 5,000 tons a day can be delivered on shipboard. The total cost of the apparatus was about \$18,000.

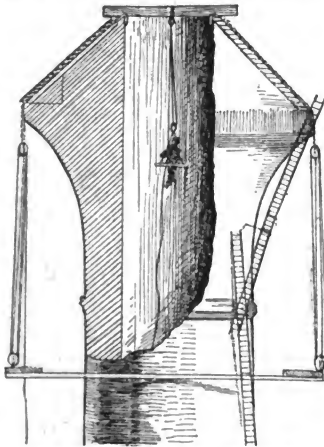
Chimney of the Clark Thread Works.—At Harrison, N. J., is the highest chimney in the United States, the property of the Clark Thread Works. Its total height is 335 feet. It is a conspicuous feature of the landscape between Newark and New York, familiar to tens of thousands of passengers who pass daily within sight of it on the adjacent railroads. On March 28, during an unseasonable thunder storm, this lofty



CHIMNEY OF CLARK THREAD WORKS, SHOWING METHOD OF ASCENT.

chimney was struck by lightning. Eye-witnesses describe the incident as terrific, a huge ball of fire falling to the summit of the chimney and glid-

ing down one side, throwing into the air a cloud of bricks and *débris*. By a curious coincidence, scarcely a quarter of a minute later a second stroke fell upon the same spot, thus effectively exploding the time-honored saying that lightning never strikes twice in the same place. By a singular omission, no provision had been made for ascending the chimney, but after this accident it became necessary to inspect its condition. It was deemed unsafe to continue working the factory, and the mill was accordingly shut down until the tower could be examined. A roofer, John Phillips, commonly known in Newark as "Steeple Jack," was finally consulted, and he undertook, for a stipulated sum, to climb the chimney within a specified time. The undertaking involved a bit of personal engineering



TOP OF CHIMNEY OF THE CLARK THREAD WORKS.

that deserves perpetuation, especially as he accomplished his task in three working days. The side of the chimney opposite to that struck by lightning was selected. A ladder was first placed against the chimney, and a block of wood inserted between its upper end and the brick work. The block was a little longer than the width of the ladder. Phillips ascended this first ladder and drove two straight-shanked hooks of steel into the joints between the bricks, just outside the sides of the ladder, their bending ends projecting inwardly and firmly gripping the ladder itself. A second ladder was now drawn up with block and tackle and lashed securely to the upper section of the first ladder. A steel hook was then driven into the chimney far enough up to hold the second ladder securely until the climber could ascend and fasten the second ladder with hooks and a block driven in as before, at the head of the ladder. This process was followed, as shown in the illustration, as far up as

the taper of the chimney continued uniform. Twenty-four ladders brought him to the outward flare of the brick work. Near the top of the uppermost ladder precautions were taken for security by driving additional hooks into the chimney; then a ladder long enough to reach to the outer rim of the chimney cap was hoisted and cautiously shoved out by means of tackle and blocks until its upper end projected above the outermost rim of the chimney cap. This ladder, inclining outward, was securely lashed, and the daring climber ascended it to the extreme top of the chimney. This done, of course the hoisting of timbers and the construction of a working platform for repairs to brick work was a simple matter. The operation of climbing attracted a great deal of attention from the thickly populated adjacent regions. With a good telescope in clear weather the man could be seen from New York, and the passengers on passing trains crowded platforms and windows on their way to and from the city. Phillips is a member of a slate and felt roofing firm of Newark, N. J.; he is a slightly built man, Scotch by birth, and undertook this climbing feat merely as an incident of his every-day life.

Electric Engineering.—The activity alike in the invention and development of all kinds of electrical appliances has been very rapid, the United States leading in many directions. In the employment of electricity for traction America is far in advance of the rest of the world; but tramways are now being introduced in Europe. One that has been brought into successful operation near Berlin is about one mile long and is operated on the Thomas Honston plan. In electric lighting the main progress has been in the direction of making glass bulbs at less expense, and securing more perfect vacuums for the incandescent lights. In the direction of introducing electric lights on steam and tram cars, some progress has been made, but their introduction is by no means general. Among the new applications of electricity are the rendering of car brakes more efficient in their action, and by a simple appliance causing the wheels to take better hold upon the tracks. Electric search lights, heretofore mainly confined to war vessels, are now introduced on passenger steamers and are a great source of safety in thick weather and in the detection of possible obstructions. Electric welding and the discharge of guns by electricity have attracted attention from engineers.

Among the important engineering works in progress are the great breakwaters at Yokohama, in Japan. These are said to be wholly under the direction of native engineers.

The triple tunnel across the Clyde is well under way, and may be finished next year. In connection with the Manchester Canal, mentioned above, large improvements in the navigation of the Mersey river are in progress at and below Liverpool. On Sept. 15 work was inaugurated for the opening of the famous iron gates of the Danube, near Greben. This work is partly in Hungary and partly in Serbia, and is designed to circumvent the rapids of the Danube. It will probably not be finished until 1895.

The Chignecto Shipping Railway, connecting the Bay of Fundy with the Gulf of St. Lawrence, is the pioneer of first-class railways of this de-

scription. A large part of the permanent way has been completed, 17 miles are graded and ready for the rails, and the masonry for the great hydraulic lifts at either end of the railway is well advanced. The lifts are calculated to raise 2,000 pounds to a height of about 40 feet.

The tunnel under the Hudson river between New York and Jersey City is making fair progress at the rate of about 8 feet a day, and may be finished during the coming year.

Work has been begun on the fine bridge across the Danube, connecting Roumania and Dobrucha. It is to cross between Czernavoda and Tetesti. The bridge proper will be 2,460 feet long, in five spans, and when completed will be one of the finest in Europe.

EVANGELICAL ASSOCIATION. The following is a summary of the statistics of this denomination for 1890: Number of conferences, 26; of itinerant preachers, 1,227; of local preachers, 637; of members, 148,508; of churches, 2,043, having a probable value of \$5,047,853; of parsonages, 681, valued at \$831,717; of Sunday-schools, 2,500, with 28,420 officers and teachers and 176,557 pupils; of baptisms during the year, 2,668 of adults and 9,436 of children. Amount of collections; For conference claimants, \$7,529; for the Missionary Society, \$107,873; for the Sunday-school and Tract Union, \$2,494; and for the Orphans' Home, \$5,570.

The receipts of the Missionary Society, as returned by the treasurer for the year ending Aug. 31, were: For home missions (general treasury), \$31,019; for the European treasury, \$3,720; for the heathen treasury, \$7,496; for conference treasuries, \$91,811; total, \$134,047. The expenditures were \$158,629, showing a deficiency of \$24,482. The society has a permanent fund of \$74,320, a current fund of \$4,950, and annuity fund of \$50,612.

Controversy over the Bishops.—This Church has been disturbed by a controversy which has penetrated to every part of it, has divided conferences and local church organizations, and threatens to be the source of most serious embarrassment, if not of complete and permanent division, at the General Conference of 1891. It turns immediately upon the position and official standing of the three bishops, Rev. Rudolph Dubs, Rev. J. J. Escher, and Rev. Thomas Bowman, but arose in 1885 over questions concerning the administration of the mission in Japan, and has been traced back to the election of bishops at the General Conference of 1875. Affairs in the mission in Japan requiring episcopal attention in 1885, an official visit was made there by Bishop Escher, and resulted in his preparing a report unfavorable to the superintendent. The bishop's course was attacked by the "Evangelical Messenger," the Church periodical, the editor of which was a brother of the superintendent, and he was removed from office on trial by the General Conference of 1887. A paper in opposition to the official journal was begun, of which the suspended editor was made conductor. Bishop Dubs, whose sympathies were with the superintendent of the Japan mission, was accused of slander for some charge he had made against one of the persons active in the controversy; was tried in accordance with the forms of the Church, and suspended from his office until ac-

tion could be taken by the General Conference of 1891. He has paid a formal obedience to the sentence of suspension. Charges having been brought against Bishops Bowman and Escher, they procured a preliminary investigation, as is required by the discipline of the Church, before a court of three elders, who declared that no cause of action was shown against them. They claimed that these proceedings were a final disposition of the case and of their liability on those charges. The adherents of the other party disputed this position, and attempted to subject them to full trials. A court sitting in the case of Bishop Bowman at Chicago declared, March 7, that he be suspended from the exercise of his episcopal functions. A similar court sitting at Reading, Pa., pronounced a like sentence against Bishop Escher, March 21. Both bishops, taking the ground that these later proceedings were forestalled by the decision of the preliminary court of three elders, have disregarded them as void, and have continued to hold conferences and exercise episcopal authority. In this they have been sustained by the majority of the conferences and members of the Church. The Church has, therefore, no bishops whose authority is recognized throughout its borders; and frequent conflicts arise over questions of authority or the possession of property, which have to be taken to the civil courts. As yet no final decision has been made over any of these cases, either in the courts of the Church or of the land. While the controversy appears in its outward manifestations to be mainly a personal one, the leaders of the minority party, or those who support Bishop Dubs, assert that a fundamental question of church polity lies at the bottom of it. This question is said to concern the nature of the office and the extent of the authority of the bishops in the Evangelical Association. The minority accuse Bishops Bowman and Escher of unduly exalting their office, of usurping functions not conferred upon it by the constitution of the Church, and of arbitrary and unjust exercise of the powers which they are thus accused of having taken to themselves.

EVENTS OF 1890. The year has been without events of very great international importance, but the general drift of affairs has been significant. The frequent occurrence and serious character of strikes all over the civilized world has been especially noteworthy. So too has been the stand taken by the German Emperor in behalf of labor interests, and the conspicuous failure of certain strikes that were obviously instigated by demagogues. The rival European powers appear to have agreed that a peaceful adjustment of boundaries in Africa is better than settling disputes by war. The great Republic of Brazil has seemingly passed beyond the experimental stage. The Behring Sea question between the United States and Great Britain bids fair to be peacefully settled by arbitration, and the Pan-American Congress points to international harmony on the Western Continent. In politics the most sensational event was the rupture between English Liberals and Irish Nationalists. The list given herewith includes most of the occurrences that, from day to day, have commanded a considerable share of public attention.

January 1. Emancipation Day: Special celebration in South Carolina; first colored State fair opened in Columbia. Legislatures meet in Massachusetts, Maryland, and Virginia.

2. Massachusetts: Inauguration of Gov. Brackett.

3. The Pittsburg and Lake Erie Railroad Company buys the Pittsburg, McKeesport, and Bellevue Railroad for \$1,400,000. Spain: Resignation of the ministry.

4. Portuguese affronts to the British flag reported from Africa. Germany: A Czech conference opens at Vienna. San Salvador: Revolution suppressed.

6. Associate-Justice Brewer takes his place in the Supreme Court. Both Houses of Congress meet. Russia announces treaty violation by Bulgaria.

7. New York: The State Legislature meets. The President gives a state dinner to the Vice-President and Cabinet. Germany: Death of the Empress-Dowager Augusta. Africa: Fighting between Germans and Arabs. England-Portugal: Serious complications regarding the Delagoa Bay affair.

8. Brazil: Separation of Church and state proclaimed with religious liberty and equality.

9. Florida: Sub-tropical Exhibition opens at Jacksonville.

11. Germany: Funeral of the Dowager Empress Augusta at Berlin. Russia: A woman Nihilist kills the Chief of Secret Police at Moscow.

12. Portugal: It is decided to accept England's ultimatum regarding the Delagoa Bay affair. Great popular wrath because of this concession.

14. Ohio: Calvin S. Brice (Democrat) elected United States Senator. Maryland: Ephraim K. Wilson (Democrat) re-elected United States Senator. Portugal: A new ministry formed. France: M. Floquet elected President of the Chamber of Deputies. Russia: Several officers of the Czar's body guard commit suicide.

15. Afro-American leagues meet in convention at Chicago. New Jersey: The Governor's salary raised to \$10,000. Prussia: The Emperor opens the Diet. Egypt: The Khedive bestows decorations upon Stanley and the white officers of the African expedition.

16. England: The Earl of Euston and Mr. Herbert Gladstone win libel suits against newspapers.

17. Massachusetts: Lockout of shoe operatives ends at Haverhill.

18. Europe: The Duke of Aosta, late King of Spain, dies at Turin. The new Brazilian Republic recognized by the Argentine Confederation.

19. Publication of the Samoan treaty. Portugal: A public meeting in Lisbon to protest against the action of England. Brazil: Three banking districts created, each with its bank of issue and an aggregate capital of \$250,000,000.

20. Spain: A new ministry formed. Portugal: The demands of England submitted to under protest, the European powers having declined to interfere. Brazil: A decree promulgated requiring foreign corporations to import two thirds of their entire capital.

22. The United States Squadron of Evolution quarantined at Tangiers because of influenza.

23. Women's Christian Temperance League organized at Cleveland, Ohio. Delegates of the Knights of Labor and the Progressive Union meet at Columbus, Ohio. Germany: The Reichstag rejects the expulsion clause of the Socialist bill.

24. National bank incorporated at Rio. Portugal: A meeting for national defense at Lisbon.

25. Nellie Bly, of the New York "World," finishes her tour around the globe—time, 72 days, 6 hours, 11 minutes. Pan-American Congress: Delegates entertained at Baltimore. Steel steamship *Maverick*, of the Standard Oil Company, launched at Baltimore. Germany: Socialist bill defeated in the Reichstag (169 to 98).

26. Brazil and the Argentine Republic conclude a boundary treaty.

28. France and Holland are at odds regarding the boundaries of their South American possessions.

29. The President officially receives the Brazilian

deputation. Ohio: Deadlock in the State Senate on the lieutenant-governorship.

30. Ohio: Lieut.-Gov. Lampton (Republican) unseated by the Legislature (Democratic). Banking complications in New York: Sixth National Bank closed by order of the United States examiner, arrests of officers and brokers.

31. Satisfactory trial of torpedo boat *Cushing*. England: The Duke of Connaught succeeds the Duke of Cambridge as Commander-in-Chief of the British Army. Portugal authorizes the opening of the Delagoa Bay Railway.

February 1. The "Six Nations" hold a council on Indian citizenship and land in severalty. Brazil: The Minister of Commerce resigns, and is succeeded by Señor Killeiro. Mexico recognizes the Republic of Brazil.

3. Supreme Court: The Idaho anti-Mormon test-oath law sustained. Chicago: The Presbytery declares for a revised Confession of Faith. Columbia College: Seth Low installed president. New York: Presbytery accepts report favoring revised Confession of Faith. National Convention of Colored Men meet at Washington. England: Mr. Parnell's libel suit against the London "Times" is compromised, plaintiff gets £5,000.

4. New York city Centennial anniversary of the Supreme Court celebrated. The suspended banks resume business. France: Death of the Duc de Montpensier. England agrees to a conference with Portugal.

5. New York: The Supreme-Court justices are entertained by the Bar Association. Germany: Labor troubles command attention.

6. Australia: A federation conference opened at Melbourne. Germany-Turkey: A commercial treaty signed.

7. France: The Duke of Orleans arrested in Paris for violating the decree of banishment.

10. Nevada: The Mormons are defeated in an election at Salt Lake City. Bulgaria: Many arrests of plotters against the throne.

11. The Union Pacific and the Chicago and Northwestern Railroads withdraw from the Interstate Commerce Association. England: Parliament meets.

12. Missouri: Exciting temperance crusade in Lathrop and vicinity. France: The Duke of Orleans sentenced to two years' imprisonment. Germany: The Socialists, in consideration of imperial rescripts, withdraw their resolution to organize a general strike in May.

13. Georgia: The Chamber of Commerce holds its first annual dinner at Atlanta. The Methodist Book Concern celebrates its centennial at the Metropolitan Opera House, New York. Troops are ordered to the Sioux reservation to keep out white settlers. Great Britain: Report of the Parnell Commission submitted.

14. Charles Emory Smith confirmed as minister to Russia.

15. Secretary Windom terminates the contract between the Government and the Immigration Commission of New York City.

16. Hawaiian Islands: A general election resulted in favor of the native party.

17. British Columbia: A colonial court decides that the United States Government has no jurisdiction in Behring Sea.

18. National Educational Association Convention opens in New York—adjourns Feb. 20. Hungary: Death of Count Andrássy.

19. American Woman Suffrage Association: Annual meeting at Washington. New York Legislature: The World's Fair bill passed. Iowa: Legislative deadlock broken by a compromise. Russia demands 3,000,000 rubles from Bulgaria.

20. Allegheny, Pa.: Dedication of the Carnegie Library. Germany: The elections show large Socialist gains.

21. Missonri: Sixteen persons arraigned for a riotous attack on a liquor dealer in Spiekardsville. New Hampshire: Memorial Hall and Library dedication at Wolfborough.

27. Iowa: Horace Boies (Democrat) inaugurated Governor. United States steamer Enterprise reaches New York with the body of the late George H. Pendleton. Germany: Prince Bismarck prohibits the sale of West African territory.

28. The North American Commercial Company secures the Alaskan fur-seal rights.

March 2. Rome: The Pope celebrates his eightieth birthday.

3. Germany: Several election riots. Dahomey, West Africa: Fighting between French and natives.

4. Iowa: William B. Allison re-elected to the United States Senate. National League of Republican Clubs meets at Nashville, Tenn. (adjourns March 5). Scotland: Great railway bridge opened over the Firth of Forth.

6. Africa: Fighting between the natives and the French in Dahomey, and natives and Germans in East Africa. Hungary: A ministerial crisis arises on the question of naturalizing the venerable Louis Kossuth.

7. United States steamship Concord launched from Roach's yard, at Chester, Pa. New York city: Contract awarded for constructing a tunnel under the East river. England-Portugal: Negotiations regarding the African trouble have failed.

12. Chicago, Burlington and Northern Railroad bought by Chicago, Burlington and Quincy Railroad. Canada: The Birchalls, husband and wife, arraigned for the murder of the Englishman Benwell.

13. Peru: A political campaign results in rioting and bloodshed.

14. New York: The Flaek divorce trial begun. France: The ministry resigns.

15. Germany: The Labor Conference begins its sessions at Berlin (adjourns March 29). The President warns "boomers" to leave the "Cherokee strip." Africa: A French garrison besieged by 30,000 Dahomans. The President and Mrs. Harrison visit Florida.

16. France: A new Cabinet formed, M. Freycinet President of the Council. England: General strike among the miners causes an advance in the price of coal.

17. Germany: Prince Bismarck and his son Herbert tender their resignations.

18. Germany: The Emperor accepts Prince Bismarck's resignation.

19. United States steamship Newark launched from Cramp's yard, Philadelphia. McCalla court of inquiry begins at Brooklyn Navy Yard. Germany: General von Caprivi is appointed Chancellor of the Empire *vice* Bismarck, resigned.

20. Germany: The Emperor makes Bismarck a field marshal and offers him a dukedom; he appoints Herbert Bismarck Minister of Foreign Affairs.

21. New York: The Court of Appeals decides that execution by electricity is constitutional. England: The House of Lords adopts the report of the Parnell Commission.

22. New York: The defendants in the Flaek divorce case found guilty.

23. Large numbers of "boomers" invade the Cherokee strip.

25. Scotland: Strike of the Glasgow dockmen fails.

26. England: Oxford wins in the University Boat Race. New York: Sheriff Flaek resigns.

27. England: London dockmen on strike.

28. New York: Gen. Daniel E. Sickles appointed sheriff *vice* Flaek, resigned.

29. London: 10,000 shoemakers go on strike. Spain: 40,000 factory hands go on strike.

30. Annual meeting of the American Tract Society in Washington. Germany: Bismarck's birthday celebrated in Berlin. Strikes become more threatening in Europe. Portugal: An election results favorably to the Government.

31. New York: Gov. Hill vetoes the Saxton Ballot-Reform bill.

April 1. Messrs. Swayne and Stripling confirmed respectively as circuit judge and United States attor-

ney, both for the Northern District of Florida. Bills introduced in the Senate to regulate the sale of adulterated beer and to make a public park of Bedlow's Island. Chicago: 1,000 plumbers go on strike.

2. The Australian ballot system is successfully introduced at a State election in Rhode Island and at local elections in Missouri and Wisconsin. Russia: Excitement and rioting among university students at St. Petersburg.

5. Iowa: "Local option" defeated in the House of Representatives (51 to 49). Mormons hold their annual meeting in Utah.

7. Chicago: Nearly 7,000 carpenters strike for shorter hours and higher wages.

8. Austria: Rioting by strikers in Vienna. Russia: 28 students expelled from the university for rioting.

9. Canada: The Government decides to renew the *modus vivendi* for a year. In the Dominion House of Commons reciprocity is defeated.

10. Spain: Anti-Carlist riots at Valencia.

11. New York: 1,200 men strike to sustain their "walking delegates."

12. Chicago: Panic in the Board of Trade. Congress presents a gold medal to Joseph Frances, inventor of life-saving appliances. The Cushing torpedo boat is accepted by the Government. Florida: Subtropical Exhibition closes at Jacksonville. Germany: The Samoan treaty ratified at Berlin.

13. Argentine Confederation: The Ministry resigns.

14. The Supreme Court sustains the act of United States Deputy Marshal Nagle in taking life in defending Judge Field. Chicago: The carpenters' strike extends to other building trades. Peru: Bermudez elected President. Russia: The Grand Duke Nicholas is arrested for revolutionary affiliations.

15. Prussia: Opening of the Diet.

16. Reunion of the Loyal Legion in Philadelphia. Chicago: Building industries completely stopped by the strike. New York: Convention of Working Girls.

17. The American Philosophical Society commemorates the anniversary of Franklin's death. New York: The Working Girls' Convention adjourns. Austria: Fight between striking miners and troops. Brazil: Religious instruction suppressed in the public schools.

18. Kentucky: Fight between State militia and Harlan County outlaws. France: Henry M. Stanley reaches Paris. Cuba: Bandits create a reign of terror. Africa: The King of Dahomey assumes the offensive on the frontier of French territory.

19. Samoan treaty signed at Apia. Portugal: The King opens the Cortes.

21. Africa: Portuguese advance checked to await negotiation with England.

22. Chicago: Strike riots and many arrests. Africa: A French force beaten by the Dahomans.

23. Federation of women's clubs: Convention meets. Africa: The French win a pitched battle with the Dahomans.

24. Anti-Semitic riot in Galicia.

25. Arkansas: Investigation of the Clayton-Breckinridge case at Little Rock. The President signs the relief resolution appropriating \$150,000 for the Mississippi sufferers. Germany: The Emperor visits Queen Victoria at Darmstadt. Chicago: Strike riots repeated.

26. Stanley reaches London. The Supreme Court decides that the Iowa "original-package" seizures are unconstitutional.

28. Representatives of ten American republics sign the arbitration treaty.

29. France: Arrest of the Marquis de Mores and other Anarchists. Africa: Completion of the Delagoa Bay Railroad. Canada: The bill extending the *modus vivendi* passes the Dominion Senate.

30. New York: Washington Memorial Arch begun. France: Discovery of a plot to declare the Duke of Orleans king. Paraguay: Revolution breaks out, and there is fighting between the factions.

May 1. New York: The State Assembly passes a bill to abolish capital punishment (afterward reconsidered and defeated). Labor demonstrations occur in most of the large cities. Strikes occur in New England. Europe: Extraordinary measures alone prevent violent labor demonstrations. Slight disturbances at Paris and Pesth.

2. New York: Ballot-reform bill signed by the Governor. About 50,000 men on strike in Chicago and other large cities. France and Spain: Riots and strikes occur.

3. Spain: Strikers obtain possession of Barcelona and hold it for a time.

4. England: Immense labor meeting in Hyde Park; 170,000 present; no disorder.

6. Germany: The Emperor opens the Reichstag and recommends legislation to protect working men.

7. Africa: The Germans capture Kilwa from the Arabs.

8. Arkansas: The Congressional investigation closes at Little Rock. South Carolina: The Episcopal diocese votes not to exclude a colored minister, now a member. Syria: Heavy fighting between Maronites and Druses.

13. Louisiana: The State lottery offers \$1,000,000 for the renewal of its charter. New York: Twenty-fifth anniversary of the National Temperance Society.

14. Baltimore: National Conference of Charities and Correction. Florida: The mayor and city marshal of Cedar Keys are arrested for obstructing Government business. England: The Government is defeated on an Irish bill in the House of Commons. Riots strikes in various European cities.

15. Spain: Several strikers killed at Bilbao.

16. Canada: Parliament is prorogued.

19. The Supreme Court decides that the Edmunds act is constitutional in its clause relating to confiscation of Mormon property; it decides also against Cornell University in the Fiske will case. The French capture two strongholds in Dahomey. Japan: A new Cabinet formed.

20. Cincinnati: Opening of the May music festival.

21. Italy: Strikers fired upon by troops. Acheen: Dutch troops are repulsed by natives.

22. The President receives the delegates to the National Convention on Charities and Correction.

23. Egypt: Alleged famine in the Soudan.

24. Chicago: 26 men indicted for election frauds.

25. New Haven, Conn.: Meeting of the Brotherhood of Locomotive Engineers; address by Chauncey M. Depew. Ireland: Nationalist meetings defy the police.

26. Chicago: Congressional committee on alien labor law violations. Jersey City: 63 indictments against election officers.

27. Ireland: Land League meetings broken up by police and troops.

28. Washington: Meeting of Republican National Committee. Richmond: Mercie's equestrian statue of Gen. Robert E. Lee unveiled. Newfoundland: A French war ship destroys fishermen's nets; payment of taxes refused. Paris: Russian Nihilists arrested.

30. Memorial Day: Lakeview, Ohio, Garfield memorial dedicated; Vicksburg, Miss., commemorative exercises of the Blue and the Gray; New York, cornerstone laid of Washington Memorial Arch. Ireland: Petit, the American tennis player, wins the world's championship at Dublin. Hungary: The Lower House refuses citizenship to Louis Kossuth.

31. Bavaria: Prime Minister Baron von Lutz resigns. Germany: The cathedral spire at Ulm finished: highest in the world.

June 2. The work begins of taking the census of the United States. England: The House of Commons considers the Behring Sea and the Newfoundland fishery questions. Kansas: An "original package" whisky war is threatened.

3. Germany, France, Russia, and Switzerland have agreed to suppress anarchy. France: The Duke of Orleans pardoned.

4. Brooklyn, N. Y.: Great Sunday-school parade of 60,000 children.

5. England: It is alleged in Parliament that the French acts in Newfoundland are justified; the bill for a channel tunnel is again defeated. France: Attempted destruction of the monastery of La Grande Chartreuse.

7. Wisconsin: Lutherans condemn the State education law. England: Miss Philippa Garrett Fawcett carries off the highest honors at Cambridge University.

9. Columbus, Ohio: Strike riots. New York: 60 arrests for refusing to answer questions of census enumerators.

11. Clifton, N. Y.: Annual meeting of the International Missionary Union. A British schooner seized for smuggling Chinamen on the Pacific coast.

12. St. Louis, Mo.: National Convention of Young People's Christian Endeavor societies, 8,000 delegates present. Russia: A fresh plot discovered against the Czar's life. Canada: The Duke and Duchess of Connaught sail for England.

13. Columbus, Ohio: The street-car strike settled by a compromise. Germany and Morocco: An international commercial treaty signed. Acheen: The Dutch win a victory over the natives.

16. California: One of the peaks of Mount Shasta disappears. England: Stormy scene between Mr. Balfour and the Irish members of the House of Commons.

17. Bunker Hill Day celebrated in Boston and Chicago.

18. England-Germany: Proposed transfer of Heligoland announced. Quebec elections result favorably to the French Nationalists.

20. Harvard University: Clement Garnett Morgan, a negro, delivered the class oration. England: Notice of a motion given in the Commons to consider retaliatory tariff legislation as against the United States.

21. The President appoints commissioners for the World's Fair. Harvard beats Yale at baseball. Canada: Important concessions made to favor American fishermen. Chicago: The Lake Front site is decided upon for the World's Fair.

23. Brazil: New Constitution promulgated.

24. Strike on the Illinois Central Railroad. New York: The Court of Appeals sustains the anti-Sugar Trust decision; it also affirms that Kemmler must be executed by electricity. Yale beats Harvard at baseball. San Salvador: A new government is formed with Gen. Carlos Ezeta as President. National Association of Editors meets in Boston.

25. Louisiana: House of delegates recharter the State Lottery for twenty-five years at \$1,000,000 a year. London: French Royalists hold a conference.

27. The President signs the dependent pension bill. New London, Conn.: Yale-Harvard Boat Race, Yale wins.

29. Shawnee Indians sign a treaty receiving their lands in severalty and \$100 per capita.

July 3. Portland, Me.: Society of the Army of the Potomac meets. Cincinnati: Strike of freight handlers. Newfoundland: Further French aggressions reported.

4. The one hundred and fourteenth anniversary of American independence celebrated all over the United States, and by American colonies abroad.

5. Spain: A new Cabinet formed with Señor Canovas de Castillo as Premier. France: The Senate votes a duty on corn. Paris: Conviction of six Russian Nihilists.

7. Louisiana: Gov. Nicholls vetoes the Lottery bill. The new Chinese minister reaches Washington. London: Threatened strike of policemen.

8. Milwaukee: National Convention of Knights of Pythias. St. Paul: Annual National Educational Convention. London: Insubordinate policemen sentenced to imprisonment.

9. Lieut.-Col. Batchelder is confirmed as quartermaster-general, U. S. A. Cincinnati: National Convention of Colored Catholics.

10. Act for the admission of Wyoming signed by the President. Louisiana: Both branches of the Legislature sustain the Lottery bill against the Governor's veto. Strikes at Toledo and Louisville.
11. The United States torpedo boat Cushing runs from New York to New London at the rate of 25-35 miles an hour.
12. Col. Alexander McD. McCook promoted brigadier-general. South America: General financial stringency. London: End of London postmen's strike; marriage of Henry M. Stanley to Miss Dorothy Tennant in Westminster Abbey.
14. London: Opening of the Peace Congress, David Dudley Field, president.
15. Philadelphia decides to erect 25 new school buildings.
17. San Salvador and Guatemala: Pitched battle between the opposing armies, San Salvador victorious. Bulgaria: A revolution in Sofia.
20. Boston: Monument to Count Schwab dedicated.
21. Joliet, Ill.: Unsuccessful strike of quarrymen ends.
23. Brighton, Mass.: Annual meeting of the archbishops of the United States. Formation of the National Woman's Health Association. Agreement reached between England and France in regard to African affairs. The United States squadron of evolution is officially welcomed at Rio de Janeiro.
24. New York: End of cloakmakers' strike. Wyoming: Celebration of the admission of the State to the Union. Central America: Severe fighting between the armies of San Salvador and Guatemala.
26. South America: Revolution in the Argentine Republic; riots in the streets of Buenos Ayres. England: The Queen opens the new dock at Southampton.
27. Jay Gould purchases the Northwestern Railway system for \$1,750,000. Asheville, N. C.: Woman's Christian Temperance Union Assembly in session, 18 States represented. Cincinnati: End of the freight handlers' strike.
28. The Louisville and Nashville Railroad Company mortgaged to the Central Trust Company of New York. Buenos Ayres: Several hundred men killed in the street fighting; a truce agreed to. More fighting between the Guatemalans and the Salvadorians, result indecisive.
29. New York: The Squadron of Evolution returns from its foreign cruise. Constantinople: Four hundred Armenians arrested for demonstration against the Greek patriarch.
30. Tennessee: Republican Convention meets in Nashville. Buenos Ayres: Order restored and general amnesty granted by the Government.
31. A cruising squadron of three British war-ships visits Newport, R. I. Central America: A counter-revolution broke out in San Salvador.
- August 4.** Chicago: Biennial Convention of the United Brotherhood of Carpenters and Joiners in session.
5. Missouri: Convention of the American Dental Association at Excelsior Springs.
6. New York: First execution by electricity in the State Prison at Auburn. The British fleet leaves Newport, R. I.
7. Chicago: National Convention of Odd Fellows in session. Massachusetts: Revolt of the State Prison convicts at Charleston quickly checked. Louisiana: The Anti-Lottery League meets in New Orleans to oppose the continuance of the State lottery.
8. New York: Disastrous strike on the Central Railroad.
9. Connecticut: Celebration of the seventy-sixth anniversary of the bombardment of Stonington by the British. Indianapolis: National Bar Association in session. England: Heligoland formally transferred to Germany. Africa: The Congo State annexed the Kingdom of Monatayamoo, a large adjacent territory.
10. Boston: Annual encampment of the Grand Army of the Republic, very large representation, a naval squadron detailed to be present. Heligoland: The German Emperor lands and takes official possession. International Medical Congress in session in Berlin.
11. Revolution announced in Morocco.
12. Indianapolis: The Chicago and Atlantic Railway has been sold in Indianapolis for \$5,000,000 to the Erie road. Asheville, N. C.: Numerous meetings of the Farmers' Alliance. New York: Failure of the strike on the New York Central Railroad. The Caroline Islands: Natives massacre a detachment of the Spanish garrison. The Salvadorian Government makes amends for its seizure of the United States consulate.
13. Mississippi: State Constitutional Convention in session at Jackson. Boston: W. G. Veasey, of Vermont, elected Commander-in-Chief of the Grand Army of the Republic. Pittsburg, Pa.: Strike of the machinists of the Westinghouse Company. Boston: First annual convention of the letter carriers of the United States.
15. Washington: Bronze statue unveiled of Daguerre, the discoverer of photography.
17. An express train near Ottaville, Mo., robbed of \$90,000 by highwaymen. Albany N. Y.: Strike riots on the Central road; several persons wounded by Pinkerton deputy sheriffs.
18. Baltimore: Thirty-fifth annual convention of Catholic-German Societies. Indianapolis: Annual convention of the American Association of Science, adjourns Aug. 28. England: Parliament prorogued.
20. The Sultan of Morocco has put down an insurrection and beheaded eighty rebels.
22. Pennsylvania: Large meeting of the Farmers' Alliance at Mt. Gretna. Saratoga, N. Y.: Simeon E. Baldwin, of New Haven, is elected President of the American Bar Association. Argentine Republic: Ministers of Finance and War resign.
23. The body of the late Capt. John Ericsson dispatched to Sweden on the United States steamship Baltimore. General lockout of brickmakers along the Hudson river; building operations checked in New York.
24. Indiana: Council of the Federation of Railroad employés in session at Terre Haute, the New York Central strike under consideration.
26. Cincinnati: The Board of Education decides not to employ married women as teachers in public schools. Chicago: Strike of railway switchmen in the stock yards. Railway managers combine to resist their demands. Germany: A large mass meeting of Socialists at Berlin. Treaty of commerce signed between Germany and Turkey. General E. Burd Grubb, of Philadelphia, appointed minister to Spain.
27. Iowa: Farmers' National Congress in session at Council Bluffs. The new United States cruiser San Francisco makes a successful trial trip; average speed, more than twenty miles. Salvador and Guatemala sign a treaty of peace.
29. Chicago: Failure of the switchmen's strike. General strike in the shipping trade in Australia and New Zealand.
30. Servia: The Cabinet resigned. England: Strike of dockmen at Southampton ends.
31. Melbourne, Australia: Great labor demonstration parade of 40,000 strikers.
- September 1.** General celebration of Labor Day.
2. Saratoga: Annual session of the American Banking Association. New York: The State Board of Arbitration takes testimony concerning the New York Central strike. Pittsburg, Pa.: Failure of the strike in the Westinghouse Works. Chicago: The carpenters' strike a failure. Gettysburg: Monuments are dedicated by two Pennsylvania regiments. St. Louis: A new political party formed by the Union Labor, the Prohibition, and the Greenback parties. Single-Tax Convention in New York.
5. Ireland: Reported failure of the potato crop.
9. Chicago: The World's Fair directors select a site on the Lake Front and in Jackson Park.
10. Meeting of the American Library Association at Fabyan's, N. H. England: A strong force of soldiers and police ordered to Southampton to suppress the strikes.

11. A religious excitement develops among the Indians of the Northwest. Altona, Pa.: Successful strike of miners for higher wages. San Francisco: Convention of the Brotherhood of Locomotive Firemen, representing a membership of 19,000 men. Switzerland: A revolution breaks out in the Canton of Ticino. Australia: General movement in favor of the federation of the British colonies.

12. Financial stringency in London and New York largely due to excessive investments by English capitalists in South American securities. Switzerland: End of the rebellion in Ticino. The Baltimore, with John Ericsson's body, reaches Stockholm.

13. England: An advance in wages is conceded to the Southampton strikers. Europe: The Triple Alliance extended to 1897.

14. Stockholm: Imposing ceremonies at the obsequies of Capt. Ericsson. Manitoba: Extensive petroleum discoveries along Athabasca river. Brussels: Working Men's Suffrage Congress.

15. Brazil: The elections result in victory for the Government. Ireland: Lord Wolsley is assigned to command the British forces. Paris: Meeting of the International Commercial Congress.

16. Ohio: The Society of the Army of the Cumberland meets at Toledo. New York Central Railroad strike declared off. Portugal: The Cabinet resigns on account of the African treaty with England.

17. Troy, N. Y.: Indictment of three train wreckers in connection with the New York Central strike. Philadelphia: Twenty-sixth annual meeting of the Homeopathic Medical Society. Ireland: John Dillon and William O'Brien arrested for conspiracy.

18. Ireland: Messrs. Dillon and O'Brien released on bail. Australia: Serious strike riots in Sydney, 80,000 men said to be on strike in the colony. Egypt: Threatened outbreak in the vicinity of Suakim.

19. New York: Bronze statue of Horace Greeley unveiled in front of the "Tribune" building, J. Q. A. Ward, sculptor. Society Islands: Fighting between natives and French marines; France establishes a protectorate over the islands. Italy: A statue of the late King Victor Emanuel unveiled at Florence by his son Humbert.

20. Troy, N. Y.: The arrested train wreckers make partial confessions. Paris: Opening of an anti-slavery congress, Cardinal Laviege presiding.

21. Pittsburg: Congress of German Catholics. Boston: Reunion of the old abolitionists. Canada: Trial of J. R. Birchall for the murder of F. C. Benwell begins at Woodstock. Riots in India, thirteen persons killed and many wounded before order was restored.

22. Ireland: Fight between the police and the populace at Tipperary on account of the recent arrests.

23. Massachusetts: Great musical festival at Worcester. Cincinnati: The National Prison Congress begins its business meetings. Fort Sill, Dakota: Reports of a general Indian uprising. Morocco: The rebels have been defeated, but great loss of life has occurred.

24. France: Extended strikes among operatives in lace factories.

25. New York: International Convention of Iron and Steel Manufacturers, large delegation present from Great Britain. Providence, R. I.: Celebration of the one hundredth anniversary of the introduction of cotton spinning into America. The American Institute of Mining Engineers meets in New York. Canada: Conviction of Birchall for the murder of Benwell at Woodstock.

October 1. Vermont: The Legislature meets. Congress adjourns *sine die*. New York: The building trades remove the boycott from the Hudson river brick yards. Virginia: Large reunion of Confederate veterans at Winchester.

2. Treaty of Peace signed between Germany and Zanzibar. Austria: The Emperor of Germany visits Vienna.

3. The Comte de Paris and son arrive in New York

with several attendants, and are welcomed by old army associates. Ireland: A disorderly scene occurs at the trial of Messrs. Dillon and O'Brien.

4. The Navy Department formally accepts the new cruiser San Francisco. Wyoming: Gold discovered in Carbon County.

5. A treaty of peace concluded between France and the King of Dahomey.

6. The new McKinley tariff goes into effect.

7. Alleghany City, Pa.: Presbyterian Committee on the Revision of the Westminster Confession.

8. Illinois: The President addresses the veterans of his brigade at Galesburg. The British fleet enters the Zambesi river, disregarding the protest of Portugal.

9. Brazil: The general election passed off quietly, and was favorable to the Government (vote, 180,000 to 60,000). Germany: The Emperor returns from his visit to Austria.

10. The Rev. Dr. Storrs re-elected President of the American Board. Justice Miller of the Supreme Court stricken with paralysis. Pittsburg, Pa.: The Iron and Steel men hold a convention and adjourn. Ireland: Messrs. Dillon and O'Brien make their escape.

11. New York: The Christian Alliance in session, Rev. A. B. Simpson elected president. Washington: Meeting of the American Amateur Union of Athletes.

12. Germany: A congress of Socialists begins at Halle.

13. A British regiment mutinies on the Island of Guernsey. Holland: The royal physicians declare that the King is incapable of reigning. Portugal: A new Cabinet formed, with Gen. Chrysostomus as Premier.

14. London: Imposing funeral services of Mrs. Booth, of the Salvation Army.

15. Trial of the Andover heresy case before the Massachusetts Supreme Court. Buffalo, N. Y.: Annual meeting of the American Street Railway Association. St. Louis: Annual meeting of the military order of the Loyal Legion. San Francisco: The American Brewers' Association incorporated with a capital of \$3,000,000. Pittsburg, Pa.: The International Brotherhood of Locomotive Engineers organizes. Baltimore: The centennial of the establishment of the Carmelite order in America celebrated.

16. Kansas City Mo.: A Pacific Railway train robbed by three highwaymen within the city limits.

17. Boston: Meeting of the Association for the Advancement of Women. Africa: The Sultan of Zanzibar sells to Germany certain of his sovereign rights.

18. Adjournment of the Socialist Congress at Halle. Belgium: The municipal elections result favorably to Liberals and Socialists.

19. Boston: Centennial celebration of the establishment of Methodism in New England.

20. Dedication of soldiers' monuments at Greenwich, Conn., and Kingston, N. Y. Discovery of natural gas near Florence, Ala. Rochester, N. Y.: Church Congress of Universalists, nearly all States in the Union represented. Nashville, Tenn.: Meeting of the American Humane Society. Washington: Meeting of the American Institute of Architects.

21. Statue of Maj.-Gen. John Starke unveiled at Concord, N. H. The Methodist centenary in Boston ends with a grand banquet.

22. The President receives the iron and steel delegates at the White House.

23. The United States minister to Turkey demands satisfaction for the arrest of an American citizen. New York: The hundred and twenty-fourth anniversary of the Old John Street Methodist Church celebrated.

24. Secretary Noble refuses a re-enumeration of the population of the city of New York.

November 4. Elections in thirty-nine States, resulting in large Democratic gains. (See articles on the different States.)

8. New York: The American Committee for the Relief of Famine in Ireland suspends operations at the request of the Irish delegates. The body of Abraham Lincoln, son of the United States Minister to England, deposited in the Lincoln mausoleum at Springfield, Ill. Father Ignatius, the English missionary monk, is refused the use of Episcopalian pulpits in Massachusetts.

9. Germany: 8,000 shoemakers thrown out of employment at Erfurt.

10. Denver, Col.: General Assembly of the Knights of Labor meets. Messrs. Dillon and O'Brien are received enthusiastically in New York, and large money subscriptions are raised. London: There is much dissatisfaction over the new American tariff law.

11. The Episcopal Church Congress opens its sessions in Philadelphia. The Baptist Congress of ministers meets at New Haven, Conn. The eleventh annual convention of the Society of Mechanical Engineers meets in Richmond, Va. In London and New York there is great financial excitement.

12. The North River Bank of New York suspends payment, and two failures are announced at the Stock Exchange. Wyoming: The first State Legislature meets in Cheyenne.

13. Culmination of the financial panic in London; the old firm of Baring Brothers is only saved by voluntary aid of the Bank of England, the Rothschilds, and others. The trial of the O'Shea divorce case begins in London, involving Mr. Parnell, the Irish Nationalist leader.

14. Brazil celebrates the first anniversary of the republic.

15. London banks guarantee 15,000,000 sterling for the Baring Brothers. Russia: Troops fire upon rioters near Moscow, 100 wounded; three nihilists sentenced to death in St. Petersburg.

16. Launch of the United States armored cruiser *Maine* at the Brooklyn Navy Yard, the largest vessel as yet built in America. Political excitement runs very high in England and Ireland regarding the claims of Parnell as an Irish leader.

17. General concentration of troops at Pine Ridge Indian Agency, to overawe the Indian tribes. Ireland: Dillon and O'Brien sentenced to six months' imprisonment for conspiracy. Chicago: Reorganization of the American Harvester Company, with capital stock of \$35,000,000.

18. Fighting between United States troops and Sioux Indians near Pine Ridge Agency. Mr. Parnell refuses to resign his leadership of the Irish Nationalists.

19. Immediate danger of further financial disaster is averted. Springfield, Mass.: Harvard defeats Yale at foot-ball. Prof. Koch, the discoverer of the alleged cure for consumption, is specially honored by the Emperor of Germany.

20. Hostile Indians concentrate in the Bad Lands, and threaten the Pine Ridge Agency. General elections are held throughout Italy for the Chamber of Deputies. Death of the King of Holland.

21. Thanksgiving Day. Official reception of the visiting Brazilian Squadron at New York. Brooklyn, N. Y.: Yale defeats Princeton at foot-ball, winning the championship.

22. Mr. Parnell issues a manifesto to the Irish people, reaffirming his right to the leadership. Railway traffic delayed in England by a heavy snow-fall.

23. Chicago: Enthusiastic greeting to the Irish envoys.

24. The Irish delegates issue a manifesto favoring the retirement of Parnell.

December 1. Congress meets, President's message read in both Houses; new Senators and Representatives sworn in; several bills introduced in the House. Oklahoma: Many desperate characters escape from the jail at Guthrie. Meeting of Irish Home Rulers in Parliament to take action in Parnell case.

2. Ocala, Florida: Meeting of the Supreme Council of the National Farmers' Alliance. Continued threatening demonstrations on the part of the Indians; all available troops are hurried forward.

3. Ireland: The Catholic priesthood declare against Parnell.

4. King Kalakaua, of the Sandwich Islands, lands at San Francisco from the United States steamship *Charleston*. Washington: Meeting of the Intercontinental Railway Commission, representatives present from nearly all the American republics. The British House of Commons votes £25,000 for relief of the famine in Ireland.

5. Jersey City: Four election officers convicted of fraud and sent to jail for eighteen months. Germany recognizes the United States of Brazil.

6. Negotiations for the purchase of land from the Cherokee nation; \$10,000,000 offered for 6,500,000 acres known as the Cherokee strip. England: Justin McCarthy and 44 other Irish nationalists withdraw from the Parnell faction and organize as a separate party. Mr. Gladstone refuses to treat with the Irish party under Parnell's leadership.

7. Meeting of the National Board of Trade in New Orleans. Meeting of the American Federation of Labor at Detroit.

8. Meeting of the American Sabbath Union in Philadelphia.

9. Alabama: Strike riot at the Blue Creek coal mine; an armed force sent to restore order. Newark, New Jersey: General strike in the thread mills. Opening of the Italian Parliament with a speech by the King. Ireland: Mr. Parnell begins his campaign by forcibly seizing a newspaper office.

10. Alabama: Strike of the United States Rolling Stock Company for non-payment of wages. Switzerland: Dr. Welti chosen President of the republic. France: M. de Freycinet elected to the Academy.

11. A large force of hostile Indians on the war-path; depredations reported in many quarters.

12. Unsuccessful trial trip of the cruiser *Newark*.

13. Dillon and O'Brien return to Ireland, somewhat discouraged with the aspect of the Irish question in this country.

14. A party of Indian police sent to arrest Sitting Bull are attacked and compelled to defend themselves; Sitting Bull and several others are killed; the Indian police are surrounded, and only rescued by the timely arrival of United States cavalry.

15. Settlers on the frontier are seeking protection of the army posts, fearing vengeance of hostile Indians. Rochester, N. Y.: Convention of the Women's Suffrage Association. Ireland: The Parnell campaign opens with several exciting fights, including an assault on Mr. Parnell himself.

16. Altoona, Pa.: Representatives of 16,000 miners meet to demand increased wages.

17. Idaho: W. J. McConnell and Frederik T. Dubois are elected to the United States Senate. Baltimore: Launch of revenue marine steamer *Gulvaton*. England: The Queen unveils a statue of the late Emperor of Germany.

18. New Haven, Conn.: Funeral of the late Major-General Alfred H. Terry. Montana: Execution of four Indian murderers at Missoula.

19. Perryville, N. Y.: Three dynamite shells successfully fired by Dr. Justin, the inventor.

20. Ohio: It is announced that the supply of natural gas is failing.

21. A large band of hostile Indians surrenders near Standing Rock Agency. Ireland: The Kilkenny election goes against Mr. Parnell. Scotland: Strike of railway workmen.

22. Henry R. Brown, of Michigan, nominated for the Supreme Court, *vice* Samuel F. Miller, deceased (confirmed by the Senate). Surgeon Charles Sutherland appointed Surgeon-General United States army. Successful trial of the United States cruiser *Newark*.

23. The President issues his official invitation to all nations to participate in the World's Fair at Chicago in 1893. Peru: A revolt in favor of Pierola, the ex-dictator, is suppressed; 40 killed.

24. Christmas. Part of Sitting Bull's band escapes from their guard and joins the hostile camp. Scotland: The railway strikers resort to violence.

26. Minnesota: New jury law adopted; a five-sixth vote renders a verdict valid in a civil action.

28. Big Foot's band of hostile Indians surrenders at Pine Ridge Agency.

29. Big Foot's band resists disarmament and a fight ensues. Capt. George D. Wallace, Seventh Cavalry, and several soldiers killed. Lieut. Ernest A. Garlington, Seventh Cavalry, and many soldiers wounded. Many Indians killed and wounded. The Union Pacific Railway blocks traffic on the bridge at Omaha,

to force agreement to terms on the part of rival roads. Washington: Meeting of the Geological Society; meeting of the American Historical and Economical Associations.

30. Indians attack a provision train of the Ninth Cavalry, near Pine Ridge Agency, but are repulsed with considerable loss.

31. Irish Nationalists hold a conference at Boulogne, France, O'Brien and Parnell present. Parnell refuses to surrender the party leadership.

F

FAMINES IN IRELAND. During August, 1890, there was among the Irish people great anxiety in regard to the potato crop, and unfortunately the worst fears were realized. The potato rot or blight, spread through the western half of Ireland. In west Cork the yield was below the average. In the poorer districts of the west—in the counties of Donegal, Clare, Mayo, Galway, and Kerry, and in the western islands—the crop was a total failure. The existence of an Irish famine attracted great attention in the United States, and the causes of the frequent occurrence of famines in Ireland were investigated. The potato has been cultivated in Ireland since its introduction by Sir Walter Raleigh in 1586. Producing more weight and bulk to the acre than any other food crop, and being easy of cultivation, it is peculiarly well adapted to the needs of a people who live on the product of small plots of ground; and it had become the principal food of the Irish as early as the end of the seventeenth century. When Chief Baron Rice went to London from Ireland in 1688 to urge the claims of the Irish people upon James II, the hostile populace escorted him in mock state with potatoes stuck on poles. It seems to have been about this time that the people multiplied their potato plots, to the detriment of all other kinds of food products; and since then the potato has been almost the sole food of the Irish peasantry. In 1739 it was the custom to leave the potatoes in the ground until near Christmas, digging from day to day only what was immediately needed for food; and in that year an early and severe frost destroyed the undug potatoes, and a terrible famine resulted, in which one fifth of the population starved to death. From that time to the present day Ireland has been visited with famines. In 1822 there was a serious famine in Munster and Connaught; owing to excessive humidity, the potatoes rotted after they had been stowed in pits and cellars. In 1831, 1835, 1836, 1837, 1839, and 1842 there were partial failures of the potato crop which caused much distress. In the autumn of 1845 there were rumors that a blight had fallen upon the potato in various districts, and before the close of the season there was scarcely a county in Ireland in which the disease had not made some progress. "A famine," says Charles Gavan Duffy, speaking of the horror of this time, "was an ordinary occurrence in Ireland, and familiarity had diminished its terrors; but a famine on the scale of the one at hand was scarcely known in the annals of the human race." Before the autumn of 1845 had drawn to an end, poor-law guardians and clergymen (including

some of every denomination) affirmed that in many districts when winter arrived no sound potatoes would be left. The calamity of that year was not confined to Ireland. The blight fell at the same time upon the potato in widely separated districts of the world; in Belgium, in Canada, in Hungary, in Holland, in Germany, and in the United States. But the danger was greater and the results more calamitous in Ireland than elsewhere, because in Ireland alone the food product attacked was the sole food of the rural population. A people whose ordinary food is meat, maize, and wheat, and whose ordinary drink is tea, coffee, and beer, can retrench in periods of scarcity and resort to cheaper kinds of food, such as barley, oats, rice, and potatoes, with water as a beverage; but a people who feed entirely on potatoes live upon the extreme verge of human subsistence, and when they are deprived of their accustomed food there is nothing cheaper to which they can resort. Poverty so complete that the incidental potato of America becomes bread and meat to a whole nation over the sea is an impoverishment which it is hard for the poorest American to understand; but this is the case with the peasantry in the west of Ireland, and this is the reason why the failure of the potato crop causes such widespread and awful suffering in that country. The fact that the failure of the potato crop in 1890 was less disastrous than similar failures in previous years, was due to two causes: First, the relief movement in America had directed attention to the peril; and, second, the population of the famished districts was less than it had ever been before. At the time of the great famine of 1846 Ireland had a population of between 8,000,000 and 9,000,000; but, in 1890, her resident population was little more than 4,000,000. The depopulation was almost entirely due to emigration.

During every famine year the suffering has been relieved principally by private contributions and largely by the generosity of the American people. In the great famine of 1846 the efforts of individuals were aided by a mark of official sympathy from the United States Government, which, early in the winter of 1847, commissioned two war-ships, the "Jamestown" and the "Macedonian," to receive cargoes of provisions and clothing and transport them to Ireland. The "Jamestown's" cargo included wheat, barley, oats, rye, pease, beans, Indian corn, flour (wheat), barley and oatmeal, Indian meal, rice, biscuit, potatoes, dried apples, pork, hams, fish, and clothing. The "Macedonian's" cargo included Indian meal, rice, beans, pease, Indian

corn, wheat, and salt pork. She carried also a private consignment of 100 barrels of Indian meal and 3 packages of clothing; and also 13 boxes, 3 bales, and 3 barrels of clothing. The contributions then sent to the Dublin Charitable Committee (composed of members of the Society of Friends) amounted to £168,000, of which the provisions were estimated at £108,651. In addition the clothing received from America was estimated at £10,000. The Irish in the United States remitted, in small sums, during the year ending March 30, 1847, to friends in Ireland over \$1,000,000 through banking houses in New York city. The amount transmitted through financial establishments in other cities was unquestionably very large, but no authoritative computation was ever made of it. In spite of all efforts for relief half a million people perished from acute starvation and from cholera brought on by eating putrescent potatoes. Another half-million emigrated to America.

In the famine year of 1862-'63 more than 10,000 deaths were added to the usual death rate, the direct result of destitution, and 80,000 pauper emigrants sought a refuge in America. Although the United States then had a civil war on its hands, we sent to Ireland a sum variously estimated at from \$3,000,000 to \$9,000,000.

The relief sent to Ireland in 1879-'80 was mostly in money, although the United States Government again commissioned a war-ship, the "Constellation," commanded by Capt. Potter, to proceed to Ireland with a cargo of provisions. During that famine year the generosity of America found its way to Ireland through various channels. A portion of it went to form the relief fund of the Irish National Land League; another portion was absorbed by the fund raised and expended by the New York "Herald"; the New York Committee, of which Hon. Charles P. Daly was president, forwarded about \$100,000; \$60,000 was sent from various sources to the Mansion House Relief Committee, Dublin; a special committee was established in Philadelphia; but probably the greatest amount of all was transmitted directly to the Roman Catholic bishops in Ireland. The Parliament of Canada voted \$100,000 as an Irish relief fund, confiding it to the Colonial Secretary for distribution. The Province of Ontario also voted \$20,000. The scattered British colonies in the cities of South America were not deaf to the distant cries of distress: Georgetown, Demerara, sent nearly \$3,000 to Dublin; and the city of Buenos Ayres sent over \$20,000.

At the time, therefore, when it became apparent that there was a failure of the potato crop in 1890, which was likely to entail a famine upon the Irish people, there was no reason for believing that the distress would be relieved otherwise than by American generosity, as no steps had been taken by the British Government to meet the crisis. In the latter part of August, 1890, the newspapers and public speakers began to sound the alarm. The Irish Land Commissioners issued a report giving a gloomy picture of the condition of the crop. On Aug. 26, at a public meeting of the Land League, it was publicly declared that nothing stood between the Irish peasantry and starvation during the coming winter but outside assistance. But the politi-

cal leaders whom the Irish people had elected as their authorized representatives had given pledges in 1880 that never again would aid be asked from the United States in time of famine, and these pledges prevented a formal appeal from them. Nevertheless, in letters and public speeches they proclaimed the gravity of the situation. On Sept. 18 the Roman Catholic clergy of Donegal met and declared: "We feel bound to put on record the following facts relative to the destruction by blight of the potato crop in the mountainous parts of Donegal and along most of the seacoast. The yield in some places is next to nothing, and amounts to one third the usual produce in no parish within these districts. Already the price of Indian meal has gone up more than one shilling per hundred weight. In less than three months hence 40,000 people of the poorer farming class will be without their staple article of food, and therefore helpless, unless something be done in the mean time to bring them money to buy meal." The clergy of Clare Island wrote: "Of 130 families (the entire population) 110 have to live exclusively on immatures and half-rotten tubers. Is it food for working men? Is it food for young, growing-up children? Even this wretched food can not last beyond October. The little means the people had are now exhausted, for they have been buying Indian meal, most of them, since Christmas (for there was a failure in last year's potato crop also), and their means being gone they have no credit to get food. Already the fine constitutions of these people are becoming enfeebled from the very insufficient food. And in another month we know not what they can do, unless they turn to eating grass or seaweed." The clergy of other districts made similar statements.

By the end of September it became evident that there was a certainty of famine, and the daily press in the United States began to suggest the propriety of an American movement to afford relief, pointing out that in all previous periods of famine relief had not been sent until the horror of the situation began to manifest itself by actual deaths from starvation. In the mean time, in order to anticipate the famine and be ready for it, a number of citizens not connected with any Irish societies, or political bodies had united in the formation of a committee of relief. Several informal meetings were held, and on Oct. 1 these gentlemen, under the name of the "American Committee for the Relief of Famine in Ireland," published an appeal setting forth the condition of affairs in Ireland and inviting aid from the American people. The issuance of this appeal was the signal for an astounding outburst of abuse from the Tory newspapers of England, the organs of the Imperial Government declaring that there was no failure of the potato crop and no prospect of unusual distress in Ireland, and indulging in abuse of the members of the American Committee. But the response from the American people was most encouraging. Newspapers throughout the country notified the American Committee of their intention to assist the relief movement. The New York "Sun" became the treasurer of the committee, and it and the New York "Press" promised to publish the names of all contributors. The Boston "Globe," the Cincinnati "Post," the Albany

"Evening Journal," the Baltimore "Sun," the Chicago "Globe," and the St. Louis "Chronicle" signified their desire to act as the American Committee's sub-treasurers. The "Times" of Hartford, Conn., collected and forwarded to the American Committee over \$1,000, and several other newspapers collected and forwarded smaller sums. The New York "Times" provided the committee with an office free of rent, and dealers in office supplies furnished it without charge. The Mayor of New York, at the request of the American Committee, appointed a local committee to take charge of the movement in the city, and local committees were appointed in several other cities. During the first half of October the British Government continued to deny the existence of distress in Ireland or the threat of a famine. It sent to Ireland Mr. Jackson, Financial Agent of the Treasury, and Mr. I. F. Tuke, and they on returning denied the danger of famine. But public opinion was not satisfied; and Chief-Secretary Balfour was compelled to visit Ireland for the purpose of making a personal investigation as to the truth of the statements regarding the condition of the crops. The result was that, on his return, he was forced to admit that the warning of the impending calamity was fully justified by events; and the British Government thereupon pledged itself to furnish all necessary relief. Under these circumstances the American Committee suspended operations.

Before the expiration of October the British Government advanced to the Midland Great Western Railway Company of Ireland the sum of £400,000 for the purpose of enabling the company to build lines to connect the coast with inland markets in the distressed districts of Ireland. Fifty miles were to be constructed from Galway to Clifton, twenty-six miles from Westport to Mulvany, and a short line from Ballina to Killala. The construction of these roads was intended to afford the poor tenants work, which would enable them to earn money with which to tide over the winter months and to purchase potato seed in the spring.

At the opening of Parliament, in November, the Queen's speech authoritatively announced the failure of the potato crop and the existence of unusual distress, and a grant of money was then made for immediate Irish relief. On Dec. 4, a British man-of-war conveyed ten tons of meal to the starving inhabitants of Clare Island and Innis-turk; and shortly afterward the steamers "Seahorse," "Magnet," "Britomarte," and "Grappler," laden with food supplies, were dispatched to Ireland. In the same month (December) the bishops of the Roman Catholic Church in Ireland made a formal appeal to their co-religionists in America, and large amounts of money were forwarded to them. Yet the distress continued to increase. Government aid was found inadequate to cope with it, and on Jan. 4 the Earl of Zetland, Viceroy of Ireland, and Mr. Balfour, Chief Secretary, officially promulgated an appeal for aid, acknowledging the inability of the Government to cope with the distress, and asking for private contributions.

In all times of famine the distress is increased by disease. Cholera is prevalent in districts where Indian meal has been substituted

for the usual potatoes, the reason being that the Irish peasants are accustomed to use only peat or dried turf as fuel, and have neither facilities for procuring coal nor stoves for burning it. Indian meal, if not thoroughly cooked, is sure to produce cholera, and a turf or peat fire can not give out heat sufficient to cook it properly. Another disease that has accompanied every Irish famine is known as famine fever. The result of starvation is not necessarily immediate death. It first manifests itself by a general lowering of the system, and by the accessibility of the constitution to various diseases that would not have attacked people in strong health. But when a certain point of suffering from continued privation is reached fevers begin to make their appearance—the earliness of their invasion being, in individuals and districts, in direct proportion to the degree of distress endured. Famine fever is supposed to be a variety of typhus. In the Irish famine years of 1846-47 and 1879-80, the contagious nature of the disease was well established by the terrible mortality among the medical profession; but while it may be communicated by infection, it may also arise spontaneously as a direct result of physical privation and mental depression. It does not seem to be due to sanitary imperfections. The medical reports for the famine years all agree that, very frequently, dwellings surrounded by extremely bad sanitary conditions were free from the epidemic, while other dwellings at a distance were assailed, though better circumstanced. Families stricken with fever are very reluctant to make the fact known, because all intercourse with their neighbors is immediately stopped. They are regarded as plague stricken, their houses are avoided, and it is often extremely difficult to procure nurses. A peculiarity of famine fever is the large number of children and young people attacked by it, all the members of a large family being often stricken simultaneously. It happens frequently that a child is the first one attacked; and in districts where food is not granted for school children, these are usually the earliest sufferers from the disease. Insufficiency of proper food and especially deprivation of milk, tell heavily against the health of the children in every crisis. Next to the children their mothers appear to be especially liable to the invasion of famine fever. During the enormous emigration that followed the famine of 1846-47 the disease was so rife on the emigrant ships that the name of "coffin-ships" was given to those vessels, the mortality being frightful to contemplate. The privations of a famine year are productive of evil consequences to the survivors, as shown by the fact that an excessive proportion of them have suffered from certain affections (e. g., blindness). The British census returns show that a greater proportion of the deaf, dumb, and blind exist in Ireland than in any other portion of the United Kingdom, the numbers being 1 in every 445 of the population of Ireland, while in England and Wales the proportion is 1 in every 686, and in Scotland 1 in every 658.

The scenes of distress during the famine years are heart-rending. The few following instances are typical of the utter destitution and misery that prevailed during the famine of 1846-47.

At Skibbereen, on Dec. 16, a man named Donovan, who could obtain no employment, walked twelve miles to the nearest town to pawn his shoes for bread for his family. The loaf he was thus able to buy he took back under his cloak through the falling snow, and fell dead at the door of his cabin. The poverty was so general and universal that there was no money to buy coffins, and the absence of coffins generally induced the survivors to delay burial until the decomposing body poisoned the hovel and became loathsome. Therefore, the people, in many instances, buried their dead in the earthen floor that they might escape both trouble and shame, for the poorest felt that there was shame in denying decent burial to their deceased relatives. Besides, others had already buried the dead in the fields and highways, and it was thought that a resting-place by the cabin hearth was as sacred as these. In a village almost depopulated by famine five bodies were dragged to a kitchen garden and buried in so imperfect a trench by the weak survivors that the dogs (themselves starving all over the island) smelled them out and began to unearth them. In one cabin, in Filleamuck, Darby Ryan and his son died. The old man's wife contrived to lay them out on two panniers as decently as possible, after which she died also. And when the cabin was visited, the only living things found there were an emaciated boy in the last stages of starvation and a little skeleton babe, which vainly tried to hang to the breast of its dead mother. In Kinsale, out of 200 houses, there were only two where there was any food. At Ballydehob, in Bantry, every hovel had its dead body, and every dead body the marks of famine. The Rev. Richard Chenevix Trench, afterward Archbishop of Dublin, wrote at the time: "On our way home we passed the hut of the first man who perished by famine in the parish. When he found death staring him in the face he built up the door of his hut with large stones, and thus inclosing himself and his children, prepared to die. No one took any notice, but some days afterward one of the children contrived to remove some of these stones and creep through the aperture. Crawling to some of his neighbors, he told them that his father 'did not seem to care about him and his brother,' and had now 'been asleep two days.' An entrance was effected, and the man and the other child found dead." The writers of that time pause horror-stricken at the sights they saw, and more than once refuse to describe the condition in which the bodies of the dead and dying were left by the starving rats and dogs.

The scenes of distress during the famine of 1879-80, before aid from the outside world had reached the starving people, were equally terrible. The Bishop of Elphin said concerning his own parish, "There are thousands of families suffering from hunger." The priests of Arran Island, visiting among its villages in the early winter, saw children absolutely naked shivering in the fireless chimney-corners. A correspondent of the "Freeman's Journal," who traveled through the distressed districts in early January, visited hundreds of families that were wasting away in actual starvation, existing on a chance meal of stirabout (badly cooked Indian

meal) begged from neighbors only less destitute than themselves, digging the potato fields over again in the hope of finding a few forgotten roots, or cowering in their cabins all day in order not to excite the pangs of hunger by exercising. A family of nine on Dinas Island existed on periwinkles—their potatoes gone since Christmas, nothing to sow, nothing to fish with, nothing to pawn; children without a rag of clothing; sick men and women without a drop of milk or tea, with hollow cheeks, lusterless eyes, and broken hearts. A priest of Galway said he knew a family that had not had a meal for four days. Men dropped dead in the highways and at the doors of houses where they had gone to beg for aid. Swarms of the starving populace from the country districts went into the towns, and were seen squatting in rows along the curbstones, sitting on doorsteps, waiting and watching for food the livelong day. In Killarney, a correspondent of the London "Standard," leaving the main thoroughfares, passed with the dispensary medical officers and a priest through crowded lanes and alleys where the poor were clustered thickly together. "I shall never forget," he said, "the scenes of poverty and wretchedness which were here revealed, although I should vainly attempt to describe them. In one wretched house we found a family of eight persons. The father had not had a day's work for two months, and the mother assured us that her little ones had not tasted food since the morning of the previous day. Huddled upon a wisp of straw that lay on the damp earth, and covered only with an old quilt, the hungry children had cried themselves to sleep; but the noise of our visit disturbed them, and they renewed their clamors and piteous appeals to 'mammy' for something to eat. Not an article of furniture save a broken bench was in the house; all had been sold or pawned for food. The Sisters of Mercy had given them their last meal. The eldest child was to go to the convent that evening, and should she fail to get food the poor creatures would be supperless. My companions gave this destitute family the price of a supper, and we went our way and saw able-bodied men lying upon wretched straw couches, believing that by remaining quiet they could better resist the pain of the hunger that gnawed at their vitals. Further on we came to the cabin of a family who had once been better off, but were now reduced to the lowest extremity; and, horrible to relate, the mind of the mother had given way under the pangs of hunger and she had become insane." Another writer says: "We visited more than thirty hovels of the poor, principally in the townlands of Culmore and Cashel, in which I beheld scenes of misery and wretchedness wholly indescribable. In some of these hovels evicted families had lately taken refuge, so that overcrowding added to the other horrors of the situation. In one hovel in the townland of Cashel, we found a little child, three years old, one of a family of six, apparently very ill, with no person more competent to watch it than an idiot sister of eighteen, while the mother was absent begging relief, and the father in England seeking work at the harvests. In another an aged mother, also very ill, lying alone, with nothing to eat except long-

cooked Indian meal which she was unable to swallow. In another, in the townland of Culmore, there were four young children, one of whom was in a desperate condition for want of its natural food, milk, without which it was no longer capable of eating the Indian-meal stir-about, or even retaining anything whatever on its stomach. I took off my glove to feel its emaciated little face, calm and livid as in death, which I found to be stone cold. My companion gently stirred its limbs, and after a while it opened its eyes, though only for a moment, again relapsing into a state of coma apparently." It was officially recorded during the famine of 1880 that before outside aid could reach many districts, the charity of the wretched people toward each other had done its last office, and the miserable beings, reduced to a meal a day of turnips, shell fish, or seaweed, had already sunk into the torpor which is the second stage of starvation. So urgent was the necessity, so heart-rending were the panic-stricken letters that poured in from places reduced to extremities like this, that the Dublin Mansion House Committee, at their first meeting in January, unanimously suspended standing orders for the purpose of dispatching aid. One of the most dismal spectacles of these times was the ragged, famished crowds that came like specters out of the darkness of their cabins, swarming around the doors of the relief committees by day and night, in rain and frost, with gaunt, piteous faces, in their rags, waiting patiently for their dole of Indian meal. One committee, at their first distribution, sat far into the night and distributed 1,000 tickets for two stones of Indian meal apiece; yet there were between 400 and 500 fathers of families still left empty-handed, who had traveled long distances and waited all day and all night in the streets in expectation of a similar pittance. Such are examples of the distress which the failure of the potato crop entails on the Irish people. They might be numbered in the thousands.

FARMERS' ALLIANCE, THE, a national organization of agriculturists for mutual improvement and the furtherance of political ends. It was founded in New York about the year 1873. Two or three years later the Agricultural Wheel (see "Annual Cyclopædia" for 1886, page 42) was incorporated; and in 1885 the Farmers' Union. The Alliance that was incorporated in New York was an anti-secret organization, and spread rapidly westward. The largest development until recently was in 1883 and 1884. The Alliance that was incorporated in Texas in 1880 was a secret and benevolent association. In 1887 it had a membership of over 100,000. At the same time Louisiana had a Farmers' Union with 10,000 members. These two organizations united under the general laws of Congress, and secured an article of incorporation in the District of Columbia, under the name of the National Farmers' Alliance and Co-operative Union. A national organization was completed with the National Agricultural Wheel in October, 1889, under the name of the National Farmers' Alliance and Industrial Union. Much confusion arises from the fact that each State has its own particular name; and so unions, wheels, and alliances exist all over the country. But these are subordinate

bodies which must conform to the constitution of the national organization and obtain charters from it. No alliance or union can use or perform any secret work other than that permitted by the national constitution. The expressed purposes of the order are:

1. To labor for the Government in a strictly non-partisan spirit, and to bring about a more perfect union of all classes.
2. To demand equal rights for all, and special privileges for none.
3. To approve the motto "In things essential, unity; and in all things, charity."
4. To develop a better state, mentally, morally, socially, and financially.
5. To strive constantly to secure harmony and goodwill to all mankind, and brotherly love among ourselves.
6. To suppress personal, local, sectional, and national prejudices, all unhealthy rivalry, and all selfish ambition.
7. To visit the homes where lacerated hearts are bleeding, to assuage the sufferings of a brother or sister, to bury the dead, care for the widows, educate the orphans, exercise charity toward offenders, construe words and deeds in their most favorable light, grant honesty of purpose and good intentions to others, and protect the principles of the Farmers' Alliance and Industrial Union until death.

Women are admitted to full membership, and no person under sixteen years of age is eligible. Women pay neither dues nor fees. The plan of action adopted by the Farmers' Alliance is to agree first upon a needed reform, and then endeavor to persuade each political party to use its influence to legislate to that effect, and if all the parties fail, it will devise ways to enforce it. The order recognizes that reform must come through legislation, but it does not necessarily place a separate ticket in the field. If legislation can not be shaped in any other way, it will nominate its own candidates. State Alliance exchanges have been established, with a large capital stock paid in, which enables the farmer to purchase machinery and commodities at wholesale prices. Millions of dollars are claimed to have been saved by reducing the profits of the merchants and the middlemen.

The annual national convention of the Farmers' Alliance, which met in St. Louis in December, 1889, adopted a plan of confederation with the Knights of Labor (see "Annual Cyclopædia" for 1885, page 516). The name was also changed to National Farmers' Alliance and Industrial Union, and headquarters were established at Washington, D. C. Friendly greetings were exchanged with the Greenback party and the Single-tax party. At the annual national convention of the Alliance, held in Ocala, Fla., in December, 1890, the following platform was adopted:

1. We demand the abolition of national banks, and the substitution of legal-tender Treasury notes in lieu of national bank notes, issued in sufficient volume to do the business of the country on a cash system, regulating the amount needed on a *per capita* basis as the business interests of the country expand; and that all money issued by the Government shall be legal tender in payment of all debts, both public and private.
2. We demand that Congress shall pass such laws as shall eventually prevent the dealing in futures of all agricultural and mechanical productions, preserving a stringent system of procedure in trials, and lin-

posing such penalties as shall secure the most perfect compliance with the law.

3. We demand the free and unlimited coinage of silver.

4. We demand the passage of laws prohibiting the alien ownership of land, and that Congress take early steps to devise some plan to obtain all lands now owned by aliens and foreign syndicates, and that all lands now held by railroad and other corporations in excess of such as are actually used and needed by them be reclaimed by the Government and held for actual settlers.

5. Believing in the doctrine of equal rights to all and special privileges to none, we demand that taxation, national or State, shall not be used to build up one interest or class at the expense of another. We believe that the money of the country should be kept as much as possible in the hands of the people; and hence we demand that all revenues—national, State, or county—shall be limited to the necessary expenses of the Government economically and honestly administered.

6. We demand that Congress issue a sufficient amount of fractional paper currency to facilitate exchange through the medium of the United States mail.

Amendments were incorporated calling first for the experiment of Government control of all means of transportation and communication, and for absolute ownership if this plan proves inadequate, and providing that every national and State lecturer of the Alliance, and every State Alliance organ, must support the St. Louis and Ocala platforms, or suffer suspension; second, that no candidate for a national office shall receive the support of the alliance unless he approves its national platform in writing. Afterward an approval was given to what is known as the Sub-treasury bill now before Congress. This bill provides that whenever a county can show that over \$500,000 worth of wheat, corn, oats, and cotton has been raised, a sub-treasury shall be established within its limits, to enable the farmer to deposit his produce, whatever it may be, and receive therefor in Treasury notes 80 per cent. of its value. These notes, issued to pay for corn or wheat or whatever product is deposited, shall be legal tender. The bill appropriates \$50,000,000 to carry out the sub-treasury scheme. One of the leaders of the Alliance explains the Sub-treasury bill in this way: "Stripped of all that is calculated to confuse, the sub-treasury plan contains but one principle, and that is a safe, certain, and efficient method of giving a flexibility to the volume of money which shall exactly equal the flexibility or variations in demand, and thereby secure a uniformity of price on a basis of the prices now current at the highest season of the year. Prices now reach highest during that season in which money is most plentiful, and money is most plentiful during the summer months; because, the products of the previous year's agricultural effort having been consumed, money is liberated from that channel, and flowing into all channels of trade, money becomes cheaper, which means that general prices increase. The two terms are practically synonymous, and it matters not which you say, that money has become cheaper, or that the prices of commodities have risen. A decrease in the purchasing power of a dollar means an increase in the price of everything else when its price is expressed in dollars. Under this sub-treasury plan, whatever prices are estab-

lished during the summer season, when the whole volume of money is engaged in trade and the smallest possible amount invested in the products of agriculture would prevail throughout the whole year—that is to say, cotton, which commonly reaches 11 or 12 cents a pound in July, would remain at that price and not drop to 7 cents in October. The reason for this is very simple, but plain and conclusive. As the products of agriculture are prepared for market they will not absorb money to handle them from the other channels of trade, but will leave the volume of money in use undisturbed, to be used just as it has been used before harvest, and whatever additions to the volume of money are made necessary by the increased demand for its use created by the marketing of the crops will be met by an issue of money by the Government, thereby keeping the volume in an exact balance with the demand; and since there would be no contraction in the relative volume of money during the autumn months, there would be no decline in price. Therefore the legitimate cause for the decline in prices would be removed."

The Alliance also pronounced against the Federal Elections bill now pending in Congress, but the Colored Farmers' Alliance approved the bill and urged its passage. The national convention also discussed the forming of a third political party, on a more tangible basis than hitherto, composed of the Alliance, the Knights of Labor, and certain other smaller parties which have hitherto acted independently of the leading political parties. A call was issued for a national conference, at Cincinnati, in February, 1891, to further this object.

A Citizens' Alliance was also formed by the National Alliance for the purpose of establishing local citizens' alliances in the cities and large towns of the country. The branches of the Farmers' Alliance in several of the States, in the closing months of 1890, announced themselves in favor of plans not fully agreeing with the platform of the National Farmers' Alliance. In Minnesota the leaders of the Farmers' Alliance repudiated the sub-treasury plank of the Ocala convention. In North Dakota a platform was adopted favoring the Australian ballot, primary elections, the lending of money by the Government on real-estate security at a low rate of interest, free and uniform text-books in public schools, woman suffrage, Government ownership and control of railroads and telegraph lines, Government institutions for the care of invalid old soldiers, extermination of saloons, and tariff legislation that will reduce the duties on necessities, increase them on luxuries, and admit raw materials free. In South Dakota the Farmers' Alliance favored an amendment to the State Constitution forbidding sales of public-school lands; a uniform series of school-books, to be furnished by the State at cost; a fair English education for every child; the Australian ballot system; and such legislation as will forever prohibit the employment of armed bodies of men, other than our State militia, at the call of the Governor of the State. It demanded that railroad passenger rates be fixed at two cents a mile; that railroad commissioners be elected and empowered to make freight schedules for all State traffic; that the

appraised values of railroads for taxation be fixed at their bonded value; and that a law taxing mortgages be enacted. The Alliance of Pennsylvania declared that the revenue or tax laws of that State should be revised by the Legislature, so that every species of property—real, personal, and mixed, lands, bonds, stocks, moneys, etc.—be made to bear its due proportion of the public burdens, in order to relieve the owners of real estate from the unjust taxation to which they are now subjected. The Farmers' Alliance of Indiana demanded that all county officers be paid a salary in proportion to the business transacted and the amount paid for similar services in ordinary business. Among the Eastern States the work of organization appears to be proceeding the most rapidly in Pennsylvania.

Early in 1890 the Farmer's Alliance began to make itself felt as a political power. In the Southern States it sided uniformly with the Democratic party, but in the Western States it worked, for the most part, outside of both the Republican and the Democratic party, although its strength was drawn more largely from the Republicans. At the general election in November, 1890, the Alliance elected governors in Georgia, Tennessee, South Dakota, and South Carolina, the last-named in opposition to the regular Democratic candidate, who was accepted by the Republicans. It carried its State ticket in Kansas, Nebraska, South Dakota, and other States; and it also elected Congressmen in some of the Southern and Western States. A total of 38 members of the Farmers' Alliance is claimed in the Fifty-second Congress. The Alliance has elected several United States Senators. (See articles on the several States in this volume).

In July, 1890, an official census of the Alliance, taken by the secretary, showed the membership for each of 23 States and 1 Territory as follows: Alabama, 75,000; Arkansas, 100,000; Colorado, 5,000; Florida, 20,000; Georgia, 100,000; Illinois, 2,000; Indiana, 5,000; Kansas, 100,000; Kentucky, 80,000; Louisiana, 20,000; Maryland, 5,000; Mississippi, 60,000; Missouri, 150,000; New Mexico, 5,000; North Carolina, 100,000; North Dakota, 40,000; Pennsylvania, 500; South Carolina, 50,000; South Dakota, 50,000; Tennessee, 100,000; Texas, 150,000; Virginia, 50,000; West Virginia, 2,000. Total, 1,269,500. At that time the Alliances in California, New Jersey, New York, and Ohio were not fully organized, but their membership was roughly estimated as follows: California, 1,000; New Jersey, 500; New York, 500; and Ohio, 300. In New York, New Jersey, Pennsylvania, and Ohio the Farmers' League and the Patrons of Industry have probably more members than the Farmers' Alliance proper, and in Indiana and Illinois the Patrons of Industry, the Grange, and the Farmer's Mutual Benefit Association have altogether probably at least ten times as many members as the Alliance. Since Aug. 1, 1890, when these figures were compiled, the growth of the order has been large in nearly all the States, and the claim that the Alliance contains 3,000,000 members is perhaps correct.

In the Southern States there is a Colored Alliance, with more than 1,000,000 members. The color line is drawn in both, the one admitting no negroes and the other no whites to membership,

though both are working for the same end. See "The Riddle of the Sphinx," by N. B. Ashby, lecturer of the National Farmers' Alliance (Des Moines, 1890).

FINANCIAL REVIEW OF 1890. The dominating influence upon the markets this year was the financial situation in London. With more or less tension existing there it was natural that every monetary center should be affected. The cause for this abnormal condition can be distinctly traced to reckless speculation, which had extended over a period of more than two years. In this interval there had been two crises in France, one resulting from the failure of the Panama Canal scheme and the other from the collapse of the copper syndicate and the suspension of the Comptoir d'Escompte. The former inflicted severe losses upon the masses of the French people, and the latter, to a great extent, temporarily crippled the banking interests of Paris, while both taught lessons which were not forgotten during the year 1890. In 1888 England began to pour into the Argentine Republic vast sums of money which then promised remunerative returns. The speculation in securities of the Republic was encouraged to the fullest extent in the following year, when about £120,000,000 of bond property was absorbed by the British public on the recommendation of the Barings. At the end of that year it was evident that the Argentine financial situation was becoming severely strained, but, despite repeated warnings, new securities were brought out and many of them placed. In addition to the Argentines there were company-promoting syndicates or trusts, foreign brewery concerns, African gold mines, and various other enterprises continually applying for capital until the British investing and speculating public became gorged and unable or unwilling to take any more securities. The extent to which these new properties were floated is shown by the capital applications. In 1888 these amounted to £160,149,000, or over £60,000,000 in excess of 1887. In 1889 the amount was £189,436,000. During the first half of 1890 it was £89,753,000, making a total in two years and a half of £439,338,000. When it was apparent that no more Argentines could be sold, the Barings and other houses, which had commitments to that Republic, really became embarrassed, but such was their financial strength, and in such high esteem were they held by the British public, that the thought of serious trouble was not entertained, and it was not until November that the crisis came and the fact was revealed that the house which had stood firmly through the financial perils of a century was at last brought to the verge of bankruptcy. The inability of the Barings longer to float any more Argentines could not be concealed after midsummer, and then followed liquidation in other securities, including American, which affected our market and indeed the Continental bourses to a greater or less degree. The indications at the close of the year were that the liquidation was at an end, but after so severe a shock and such enormous losses recuperation must inevitably be slow.

The Bank of England held on Jan. 2 only £17,782,374 bullion, and this low condition was the result of movements of gold during the last half

of the previous year to France and the Argentine Republic. The bank minimum was advanced to 6 per cent. Jan. 1, and it is not surprising that, with a further export to France and to South America threatening that the situation became grave soon after the beginning of the year. The news from Buenos Ayres was disquieting; there was an unsettled state of political affairs in Portugal and in Spain, and business on the principal exchanges was depressed. Toward the close of the month the arrival of £1,000,000 gold from St. Petersburg, the result of a negotiation by the Barings, gave some relief, but this was followed by an export of gold to South America, and the uneasy feeling which this movement caused was intensified by the fear that gold would be sent to Paris in consequence of the negotiations for the new French loan. It was not until after the middle of February that the tension was relaxed, and on the 19th the Bank of England rate was reduced to 5 per cent. Then labor troubles on the Continent and in England tended to depress trade, and by the close of February a fall in Argentines, due to the political crisis in Buenos Ayres and also to the dissolution of a syndicate formed to underwrite the conversion loan of the Republic, had an unsettling effect. March 12 the bank rate was reduced to 4½, and on the 19th to 4 per cent.; and then the bank held £24,252,365 bullion, and it was in so strong a position that less anxiety was felt although there were indications of a movement not only to South America but to Berlin, where the bourse was in a critical condition, owing to over-speculation. The resignation of Prince Bismarck caused a flurry in the London and Continental markets toward the end of March, but the excitement soon subsided. The Argentine crisis was grave early in April, and it had an unsettling effect upon the London market, for it was well known that the Barings and financial houses on the Continent were heavily loaded with securities of the Confederation which they had been unable to sell, and it was feared that the decline in the market value would embarrass them. But this feeling was not reflected by the Bank of England, for on the 10th the rate of discount was reduced to 3½ and on the 17th to 3 per cent., and then the bank held £23,503,178 bullion. Speculation on the London Exchange was dull, and about the only feature was the shipment to New York of large amounts of American securities, but toward the close of the month the trading in these properties grew active, and there was extensive rebuying of them, stimulated by the outlook for the passage of a silver bill by Congress. Early in May it was evident that the Argentine Republic would require large amounts of gold, but the fear of this withdrawal seemed to be counteracted by the advancing tendency of all silver properties dealt in on the London Exchange, and the market was active and strong for the remainder of the month. Among the important financial negotiations was one by the Barings to rehabilitate Italian credit, and the Rothschilds arranged for a loan to Spain. Money was then cheap at all the principal centers, speculation was encouraged, and there was a decided advance in copper and in silver, the latter stimulated by a rise in the price in New York. During the first week of June an Egyptian loan for £50,000,000 was brought out by the Rothschilds

and the securities of all foreign governments were strong. Suddenly money grew stringent in London, caused by the gravity of the political and financial crisis at Buenos Ayres and also by the failure of a heavy speculator on the London market in American securities. On the 25th the Bank of England rate was advanced to 4 per cent., the stock of bullion having been reduced to £21,573,307, and it was feared that gold would be sent to Berlin for account of Russia to repay the £2,000,000 sent from St. Petersburg to London in the fall of 1889. Early in July the Argentine National Bank suspended payment of interim dividends, and this had a depressing effect upon Argentine securities in London and on the Continent. On the 30th the Bank of England rate was raised to 5 per cent. on news of the financial panic in Buenos Ayres and Montevideo, which caused an advance in the premium on gold to 220 per cent. Heavy selling of South American securities followed, and the feeling on the London Exchange was at times panicky. The passage of the Silver bill by our Congress brought about another rise in the price of the metal in London, but it did not greatly stimulate rebuying of Americans. Toward the close of the month there was a more confident feeling, due to the receipt of gold from New York, but at the same time there was a movement of gold from London to Lisbon and Argentines continued feverish. Early in August news of the resignation of President Celman of the Argentine Republic had a reassuring effect. The open market rate in London fell on the receipt of more gold from New York, and speculation in silver was encouraged by the signing of the Silver bill by President Harrison. At that time, however, there were fears that the great houses which were committed to Argentine finances would be seriously compromised by the shrinkage in these securities. On the 20th the Bank of England reduced its rate to 4 per cent., although then the demands from Spain, South America, Egypt, Portugal, and other countries were expected to be large. The lowering of the bank rate stimulated speculation in London; there was an improvement in Argentines on the belief that the crisis was over and the tone of all the European markets was strong at the close of the month and early in September. About the middle of that month, however, shipments of gold to South America made the markets stagnant, and there were fears of a movement of the metal to New York in consequence of the stringent money market at that center, but these fears were allayed by news of large purchases of bonds by the Secretary of the Treasury. Oct. 1, the Bank of England rate was raised to 5 per cent.; there was an urgent demand for gold for Portugal, Brazil, and Egypt, and the stock market grew feverish with wide fluctuations in silver as the feature. Failures in the South American trade, bank suspensions in south Africa, and the lock-out of the iron men in Scotland combined to cause an uneasy feeling for the remainder of the month. Early in October the American branch of the London Exchange was depressed by rumors that large houses trading in these securities were embarrassed, and at the first semi-monthly settlement one house had to be assisted over. About the middle of the month there were

expectations of a drain of gold to Germany for the new conversion loan of 235,000,000 marks, and the Imperial Bank of Germany advanced its rate to 5½ per cent, but no gold was sent to Berlin. The feeling on the London Exchange continued to grow worse, and there were fears of a panic, but it was averted although there was a sharp fall in all securities, particularly American. Toward the close of the month less anxiety was felt for the reason that a syndicate of bankers had undertaken to carry over a block of about \$25,000,000 par value of American stocks, thus relieving a prominent house which was embarrassed. But other houses were the subjects of disquieting rumors, and the steady fall in prices on the New York Exchange made speculators in London uneasy as the last settlement day of the month approached. Trouble was again prevented by extending relief; but the tension increased early in November, and a further fall in the New York market seemed to aggravate the situation. The Bank of England rate was unexpectedly advanced on Friday, the 7th, and the effect upon London and New York was depressing, for the reason that it was felt that it foreshadowed some grave emergency, as indeed it did. On the 15th the announcement was made that the Barings had been compelled to call upon the Bank of England, the Rothschilds, and other great financial houses to relieve them. The shock of this revelation was startling, but the full effect was in great measure counteracted by the statement that between the 7th—when the Bank of England was advised by the Barings of their critical condition—and the date of the public announcement a syndicate had been formed which had undertaken to liquidate the affairs of the house, and that a guarantee fund of £15,000,000 had been subscribed for the purpose. The liabilities of the Barings were at first stated at £15,000,000, and subsequently at £20,000,000, while the assets, at the then depreciated value, showed a surplus of £4,000,000. It was reported that the Bank of England had borrowed from the Bank of France £3,000,000 at 3 per cent, for three months, and that about £1,750,000 had been obtained from St. Petersburg. The London market was very feverish until the 20th, when the fact that the Bank of England had not raised its discount rate, and that it had gained £3,420,395 bullion during the week, had a reassuring effect, and the market sharply recovered. The fact that £1,500,000 gold was on the way from Brazil and Australia imparted a very confident feeling to the markets by the end of the month, and on Dec. 4 the bank rate was reduced to 5 per cent., the stock of bullion then amounting to £24,895,849, the highest of the year. Discounts in the open market fell and the outlook was good for a continuance of cheap money, but toward the middle of the month the demand for gold for Germany became urgent in consequence of the marketing in London of large amounts of

Argentine securities, and by the 20th nearly £2,200,000 was sent to Berlin. At the same time there was a demand for gold for shipment to New York; but as the Bank of England refused to part with bars, American double eagles had to be taken, and shipments of about £1,000,000 from London to New York consisted wholly of coin. The open market discount rate advanced under the influence of these shipments, but by the close of the month it fell off again. It was then expected that early in 1891 there would be a movement of gold to Paris in consequence of the issue of the new French loan on the 12th of January.

The price of bar silver fluctuated in London between 44½ and 43½d. per ounce until April, when there was an advance to 48d., stimulated by the prospect of early action on the Silver bill by our Congress, but there was a reaction to 46d. in May, and then came a recovery which carried the price to 54½d. early in August, when purchases of silver under the new law began. The price fell to 50d. in September, to 48½ in October, and to 45 in November, it being affected in the last two months by the unsettled condition of the London market, and it closed Dec. 31 at 48d. The purchases of silver bullion by the Treasury Department between Aug. 13 and Dec. 1 aggregated 16,778,185 fine ounces, costing an average of \$1.1128 per ounce, and, as a rule, the department paid a price considerably in excess of the parity of the London market value. The amount bought in December was 4,500,000 ounces, costing from \$1.028 to \$1.09 per ounce.

The following tabular survey of the economical conditions and results of 1890, contrasted with those of the preceding year, is from the "Commercial and Financial Chronicle":

ECONOMICAL CONDITIONS AND RESULTS.	1889.	1890.
Coin and currency in the United States, Dec. 31.....	\$1,671,160,220	\$1,712,220,917
Bank clearings in the United States.....	\$36,175,827,397	\$60,117,891,898
Business failures.....	\$148,784,337	\$189,806,964
Imports of merchandise (year).....	\$170,521,965	\$233,818,782
Exports of merchandise (year).....	\$27,106,347	\$57,628,677
Gross earnings 162 roads (year).....	\$806,571,149	\$867,424,001
Railroad construction, miles.....	5,200	6,081
Wheat raised, bushels.....	490,560,000	899,262,000
Corn raised, bushels.....	2,112,970,000	1,489,970,000
Cotton raised, bales.....	7,813,726	8,000,000
Pig iron produced (tons of 2,000 pounds).....	8,516,079	10,307,028
Steel rails, Bessemer (tons of 2,000 pounds).....	1,646,609	2,018,158
Anthracite coal (tons of 2,240 pounds).....	85,407,719	85,855,174
Petroleum (runs) production, barrels.....	21,519,696	28,604,717
Immigration into the United States (year).....	426,712	491,026

The prices of leading staples on or about the 1st of January, 1891, compared with prices at the same date in 1890 and 1889 were as follow:

PRICES OF LEADING STAPLES.	1889.	1890.	1891.
Cotton, middling uplands, per pound.....	9½	10½	9½
Wool, American XX, per pound.....	83	87	89 to 94
Iron, American pig No. 1, per ton.....	\$18 00 to \$18 50	\$19 50 to \$20 50	\$16 50 to \$17 50
Steel rails at mills, per ton.....	\$25 00	\$35 00	\$28 50
Wheat, No. 2 red winter, per bushel.....	\$1 0½	87½	\$1 6½
Corn, Western mixed No. 2, per bushel.....	46	89½	50½
Pork, mess, per barrel.....	\$14 00 to \$14 25	\$10 25	\$11 50 to \$12 25

The Money Market.—Early in January the market was stringent, owing to the low bank reserves, the surplus being only \$1,765,000 on the 4th; and also to the fact that a Government call for deposits fell due on the 15th. Some of the banks advanced the rate on call to 10 per cent., and a few obtained 25, but these were notable exceptions. After the first week the rate at the Stock Exchange for bankers' balances fell to 2 per cent., averaging 6, and money was easy at an average of 4 per cent. by the close, the banks then showing a surplus reserve of \$15,031,650, which was the highest of the year. In February the market was more or less affected by the attempt of speculators to get control of the Sixth National Bank, and by the efforts made by the President of the Western National to arrange the affairs of the above-named institution in an equitable way; but the rate for call money was comparatively easy, although toward the close of the month the chief dependence of brokers at the Stock Exchange was upon bankers' balances, as the bank reserves had been reduced to \$3,700,800, while the discount line stood on the 21st at \$414,574,000, the highest of the year, and the deposits on the 8th were \$431,599,600, also the maximum of the year. In March bank reserves increased to \$4,331,650 by the close, and money was comparatively easy, moving between 2½ and 5½ per cent. In April the extremes were 9 and 2, and the tendency was downward; but in May low bank reserves and a good demand made the market active by the middle of the month; but rates grew easier by the close, falling from 11 to 3 per cent. In June the supply of money was good until toward the end, when 10 per cent. was recorded in consequence of preparations for the July interest and dividend payments. After these were over, in the following month, the rate fell to 2, and the market was affected toward the close by purchases of \$6,000,000 bonds for the sinking fund by the Treasury Department on the 24th. In August money was very active, and during the third week 186 per cent. was recorded. The market was affected by gold exports to London, and by a reduction in the bank reserves from \$8,959,550 surplus on the 2d to a deficiency of \$2,512,975 on the 30th. The Secretary of the Treasury announced on the 22d that he would redeem \$20,000,000 4½ per cents. on and after Sept. 1, with interest to maturity of the bonds, and this made the tone easier at the close of the month. Sept. 5 money was advanced to 13, and on the 12th to 186 per cent., fears then being entertained that under the operation of the new tariff there would be an urgent demand for money with which to pay duties on goods in bond which would have to be withdrawn from warehouse before the bill went into operation. The Secretary of the Treasury, finding that offerings of 4½ per cents. for redemption were comparatively small, sought to relieve the stringency in the market by offering to pay interest on the 4 per cents. for a year. This failing to afford relief, by reason of the small demand for this interest, he decided on the 13th to buy 4-per-cent. bonds. At the same time an amendment to the tariff bill was introduced and subsequently passed extending to Feb. 1, 1891, its operation so far as regarded goods in bond. The Secre-

tary secured \$17,071,150 of 4-per-cent. bonds called for by his notice of the 13th, and payment of \$21,617,673.77 for these at once relieved the money market. The rate fell on the 19th to 2 per cent., and it was easy to the close of the month. The bank reserves rose from a deficiency of \$3,306,925 on the 13th, the lowest of the year, to \$12,170,200 by Oct. 4. In this month money was in good supply until the end of the second week, when the bank reserves fell off to a deficiency of \$349,225 in consequence of a movement of currency to the interior for crop purposes and also of a drain for customs, and the rate on call rose to 30 per cent., but toward the end of the month money began to return from the interior and the condition of the banks improved. In November money was active until after the middle of the month, the bank return of the 8th showing a deficiency in reserve of \$2,544,250, caused in great part by withdrawals of currency in anticipation of financial troubles which early in the month were seriously threatened, and on the 11th 186 per cent. was recorded in consequence of the state of semi-panic which resulted from the embarrassments of the Bank of North America and of the North River Bank. Confidence was partially restored after the 12th by the action of the Clearing House, which decided to issue certificates for the relief of the embarrassed banks, and, aided by these certificates, the Bank of North America was immediately enabled fully to regain its credit. The North River Bank, however, was so seriously embarrassed that upon examination it was found that it could not be relieved by the Clearing House, and it was subsequently placed in the hands of a receiver. On the 19th call money temporarily advanced to 186 per cent., because of a flurry resulting from the rearrangement of a loan of the North American Company, but thereafter for the remainder of the month money on call was comparatively easy. The Bank of North America had by that time returned nearly all the certificates obtained from the Clearing House, but other banks, with a view of getting into a position for the accommodation of mercantile borrowers, took out certificates, and on the 29th there were outstanding about \$9,000,000 of them. When they were first issued a charge of ¼ of 1 per cent. per month commission and 6 per cent. interest was made, but later the commission was waived, and then the demand for them became more liberal. The maximum outstanding was \$15,205,000 Dec. 13; but thereafter the amount was gradually reduced to \$12,995,000 by the end of the month. Early in December money on call was comparatively easy, but the bank return of the 6th showed a reduction in reserve to \$2,429,650 deficiency, and on the 8th money rose sharply to 186 per cent. The Secretary of the Treasury had on the 6th decided to buy \$8,000,000 4 per cents., and from the 8th to the 10th he purchased \$7,995,850, disbursing therefor about \$9,500,000, and at the same time he bought liberally of silver. Under the influence of these disbursements and also of gold shipments from London, the rate for money fell to 2 per cent., and it was easy thereafter to the close of the year, there then being much less than the usual disturbance resulting from preparations for the payment of interest and dividends because bankers were well sup-

plied with balances and there were also liberal offerings by foreign houses.

Until August time loans on stock collateral and rates for commercial paper were comparatively easy. Short-time contracts were as high as 6 per cent. in January and as low as $4\frac{1}{2}$ in February, April, May, and July, and during these periods four to six months' time loans were from $4\frac{1}{2}$ to 6 $\frac{1}{2}$ per cent. After July the rate for time contracts was nominally 6 per cent., and during November and December no money was offered on time, although the demand was urgent, and in some cases, in December, as high as 8 per cent. was bid for the accommodation without inducing offerings. The reason was that lenders looked for an active demand for money toward the close of the year and in January, and they were unwilling to make engagements on time, preferring to loan upon call, but in many cases loans by banks subject to call from day to day were permitted to stand, thus making them practically short-time contracts. The better supply of money which resulted from bond purchases and gold imports, together with some assurance that the inquiry in January would not be urgent, as it was regarded as probable that Congress would extend the time from Feb. 1 to July 1, 1891, for the payment of duties on goods in bond, induced offerings of money on time contracts at 6 per cent. for four to six months, and later in December lenders were even more liberal; but then the demand was light and the rate remained to the close of the year at 6 per cent. for all dates.

Commercial paper was readily sold until August at fair rates, ruling from $4\frac{1}{2}$ to $5\frac{1}{2}$ per cent. for sixty to ninety day indorsed bills receivable; $5\frac{1}{2}$ to $6\frac{1}{2}$ for four months' acceptances, and $5\frac{1}{2}$ to 7 for good single names having from four to six months to run. But after the end of July the rates were only nominal, and in November and early in December commercial paper was almost unsalable, except at high rates, and many merchants were embarrassed by reason of their inability to dispose of their paper. After the middle of December, out-of-town buying of commercial paper led to transactions at 7 per cent. for sixty to ninety day indorsed bills receivable, 7 to $7\frac{1}{2}$ for four months' acceptances, and 8 to 8 $\frac{1}{2}$ for good single names having from four to six months to run, and the merchants generally found good accommodation at their banks, some of the institutions taking out Clearing-

House certificates in order to extend aid to merchants.

The Clearing-House banks had the largest amount of loans on Feb. 21, \$414,574,000, and the smallest, Nov. 29, \$384,548,100. The deposits were at the maximum, \$431,599,600, Feb. 8, and at the minimum, \$376,924,200, Dec. 6. The highest amount of specie held was \$93,798,300, Oct. 4, and the smallest \$67,838,200, Dec. 6. The legal tenders were at the maximum, \$32,726,100, July 26, and at the minimum, \$20,137,400, Oct. 18. The bond operations of the Treasury Department, intended for the relief of the banks, were as follow: Redemptions of 4 and $4\frac{1}{2}$ per cents. under the circular of July 19, \$17,324,850, par value, for which there were paid \$21,225,989.46; $4\frac{1}{2}$ -per-cent. bonds redeemed with interest to May 31, 1891, \$560,050, costing \$581,138.12; redemption of $4\frac{1}{2}$ s with interest to Aug. 31, 1891, \$38,738,800, for which were paid \$40,488,045.25; interest prepaid for one year on 4 per cents. and currency 6s, \$12,009,951.50; and purchases of 4-per-cent. bonds Sept. 17, \$17,071,150, for which there were paid \$21,617,673.77. This makes a total of \$96,917,798.10 disbursed by the Treasury from July 19 to Sept. 17. In October \$3,203,100 $4\frac{1}{2}$ per cents. were purchased for redemption, and Dec. 9 \$7,995,850 4s, costing \$9,500,000, making the total payments on account of bonds \$109,630,898. In addition to this the Treasury notes issued on purchases of silver bullion from Aug. 13 to Nov. 23 were \$18,807,000. The principal reason why this large distribution of money from the Treasury did not make a more permanent impression upon the bank reserves was that the interior demand for currency was unusually large because of the high prices ruling for all cereals, the result of the short crops; the heavy yield of cotton and its early movement; the generally prosperous condition of trade at the interior; the large importations of goods in anticipation of the new tariff, payments of duties on which drained the banks through the custom house; and the export of gold to Europe in response to the urgent demand for the relief of the London market during the Argentine crisis, and later to settle trade balances and to pay for importations of silver. The condition of the New York Clearing-House banks, the rates for money, exchange, and silver, and prices for United States bonds on or about Jan. 1, 1891, compared with the preceding two years, are as follows:

	1889.	1890.	1891.
NEW YORK CITY BANKS:			
Loans and discounts.....	\$388,798,700	\$394,761,500	\$388,321,800
Specie.....	76,521,300	75,500,700	77,812,300
Circulation.....	4,862,800	8,731,300	8,590,000
Net deposits.....	400,814,600	898,790,500	882,049,300
Legal tenders.....	29,538,700	26,141,100	25,425,200
Required reserve.....	100,078,650	99,640,125	95,512,825
Reserve held.....	106,360,000	101,701,800	108,237,500
Surplus reserve.....	\$6,281,250	\$2,021,675	\$7,725,175
MONEY, EXCHANGE, SILVER:			
Call loans.....	4 @ 7	5 @ 45	24 @ 3
Prime paper, 60 days.....	5 @ $5\frac{1}{2}$	54 @ $6\frac{1}{2}$	7
Silver in London, per ounce.....	42 $\frac{1}{2}$ d.	44 $\frac{1}{2}$ d.	48 d.
Prime sterling bills, 60 days.....	4 55	4 80 $\frac{1}{2}$	4 80
UNITED STATES BONDS:			
Currency 6s, 1893.....	127 $\frac{1}{2}$	124	118
4s coupon, 1891.....	108 $\frac{1}{2}$	104 $\frac{1}{2}$	108 $\frac{1}{2}$
4s coupon, 1907.....	126 $\frac{1}{2}$	126	122 $\frac{1}{2}$

The following is the New York Clearing-House statement of totals at the beginning of each quarter of 1890 and at the end of the year:

DATE.	Loans.	Specie.	Circulation.	Deposits.	Legal tenders.
January 1.....	\$399,689,900	\$77,427,600	\$3,788,500	\$409,652,400	\$26,741,500
March 1.....	409,710,900	79,847,200	3,850,700	418,619,200	27,171,800
June 28.....	397,071,600	75,411,000	3,788,000	403,527,800	22,614,500
September 27.....	394,029,100	93,397,300	3,481,900	406,538,800	22,357,800
December 27.....	855,821,800	77,812,900	3,590,000	862,049,300	25,427,200

Foreign Exchange.—The imports of merchandise for the year ending Dec. 31, 1890, were \$52,796,817 above those for 1889, and the exports of domestic and foreign merchandise were \$30,517,330 more. The excess of merchandise exports over imports for the year was \$34,304,895, against \$56,584,382 for the year 1889. There was an excess of \$7,828,879 exports over imports of specie and bullion in 1890, against \$60,403,796 in 1889. The excess of exports over imports of merchandise, coin, and bullion this year was \$42,133,774 against \$116,988,178 for 1889. The trade balance in favor of this country was \$13,510,104 in January and \$8,156,042 in February. By April there was a change to an adverse balance of \$6,740,500, which was increased in May by \$14,864,329, and in June by \$19,923,579. Thereafter there was a gradual reduction, July showing \$10,825,435 and August \$4,609,080. In September this balance was \$8,504,160, but in October there was a change from an adverse to a favorable balance of \$21,496,890. In November this was increased by \$24,335,463, and in December by \$23,277,436.

The market was steady to strong during January, posted rates moving from \$4.80½ to \$4.84½ for long, and from \$4.84½ to \$4.88½ for short. In February the tone was firm until toward the close, when there was an easier feeling, due to offerings of bills against negotiations of securities, and also to a light inquiry owing to the fact that merchants were disposed to prepare for the contemplated change in the tariff, and therefore they refrained from remitting. The rates at the close of the month were \$4.81½ for sixty-day and \$4.85½ for sight, a reduction of three cents per pound sterling, compared with the highest in the previous month. In March the market was active and strong, influenced in part by the political crisis in Germany, resulting from the resignation of Prince Bismarck, and by selling of securities for European account, and posted rates at the close were \$4.85 for long and \$4.88 for short. Early in April the demand to remit for stocks sold by the arbitrage houses carried the market up to \$4.86½ for long and \$4.88½ for short, but after the middle of the month free offerings of bills against securities, bought for European account, caused a decline to \$4.85½ for sixty-day and \$4.87½ for sight by the close. In May continued purchases of stocks by the arbitrage houses made the market heavy, but until the 19th there was no change in rates. Then they fell to \$4.85 for sixty-day and \$4.87 for sight, and the tone was steady at the close. The market was easy early in June, but it grew stronger by the 11th, when rates moved up to \$4.86 for long, and \$4.88½ for short, and on the 14th, \$1,000,000 gold was sent to Berlin, followed a few days after by \$2,500,000 more, and by \$500,000 to Paris, but the metal was not shipped

strictly as an exchange operation. On the 20th rates fell half a cent per pound sterling, and by the close they stood at \$4.84½ for long and \$4.88 for short. The market was active early in July, opening at \$4.85½ for sixty-day and \$4.88½ for sight, falling to \$4.85 for the former and \$4.88 for the latter, and then reacting to \$4.85½ for sixty-day and \$4.89½ for sight, closing at these figures. On the 12th \$2,000,000 gold was sent to London as an exchange operation. On the 16th \$500,000, on the 19th \$700,000, and on the 26th \$1,000,000 went forward on special order, as rates for sight were below the gold point. On the 31st \$2,400,000 were shipped as an exchange operation, the sight rate for actual business then permitting of the movement. Nearly all this gold was sent because of the unsettled condition of the London market, resulting from the financial crisis in the Argentine Republic. The political revolution there broke out on the 26th, but it was suppressed on the 29th. At the opening of August exchange was firm at \$4.85½ for long and \$4.89½ for short, but it gradually became unsettled by reason of active money, and it closed at \$4.82½ for sixty-day and \$4.86 for sight. The gold shipments during the month amounted to \$8,306,000. The tone for exchange was firm early in September at \$4.83 for long and \$4.86½ for short, but by the 11th there was a reduction to \$4.82 for sixty-day and \$4.85½ for sight, in consequence of active money, and on the 22nd rates were lowered to \$4.81 for long and \$4.85 for short. On the 24th the Bank of England rate was advanced to 5 per cent., and this caused a rise in exchange to \$4.82 for sixty-day and \$4.87 for sight, by the close of the month. In October the rates at the opening were \$4.83 for long and \$4.88 for short, but liberal offerings of bills drawn against cotton and a light mercantile inquiry caused a decline, and the market closed heavy, at \$4.81 for sixty-day and \$4.85½ for sight. Early in November, the market was dull and more or less unsettled, with rates at \$4.80½ for long and \$4.85½ for short, bankers declining to draw in view of the strained condition of the London market. After the 7th, when the Bank of England rate was raised to 6 per cent., until the 20th scarcely any business was done in sterling, and rates were almost wholly nominal. On the last-named date the market resumed its normal condition, and then followed a strong tone in response to demands for deferred remittances and also because of a scarcity of commercial bills, the movement of cotton having been interrupted by the stringency in money here, and the inability of shippers to dispose of their drafts early in the month. The market closed with posted rates at \$4.82 for long and \$4.88½ for short. During the first week in December exchange was heavy in consequence of the absence of demand and the pressure of

commercial bills, and on the 8th it was demoralized by active money to such an extent that rates fell to \$4.80 for sixty-day and \$4.84 for sight, and gold was ordered out from London and Paris. Subsequently, as money grew easier, the market recovered tone, and toward the middle of the month a demand from importers for remittance carried the rates to \$4.81 for long and \$4.85½ for short; but when the inquiry subsided the market became dull and heavy, so continuing until the end of the month, when a revival of the demand imparted a stronger tone. Rates closed firm at \$4.80 for long and \$4.84½ for short.

The Crops.—The yield of wheat, corn, and oats for the season of 1890 was almost as conspicuous for deficiency as that of the previous year had been for abundance. Winter wheat had been injured before the summer came, and the drought in July and August seriously damaged oats and corn. Fortunately, however, for the farmers, the light yield of the principal crops tended to advance prices very largely, and those who had grain to sell marketed it at good figures. In December corn averaged 50 cents against 28 in 1889; oats were 42 against 23, and wheat was 84 against 69 in 1889. Taking the prices in New York on the 1st of January, if the whole of the crop could have been laid down at that point on that date, the values would have been as follows:

the difficulty of obtaining money after the middle of the year. The failures were comparatively light during the first nine months, numbering 7,581, with liabilities of \$100,771,820, against 7,879 failures involving \$105,055,898 for the same time in 1889. The failures for the year were 10,907, or 1 to 102 in business, with liabilities of \$189,856,964.

Railroads.—The markets were overloaded at the beginning of 1890 with the enormous cereal crops of the previous year, and the transportation of the grain largely augmented the business of the railroads during the early part of the year. When this movement subsided, earnings, particularly of the Granger roads, fell off, and then followed cutting of rates, which resulted in more or less demoralization. The low prices which farmers received for their products made them clamorous for lower rates for transportation, and appeals for relief were made from time to time to local authorities with some degree of success. One important event, as affecting the railroad interest, was a decision by the United States Supreme Court in the Minnesota milk cases, which held that State commissioners should not make rates that are unreasonable, and that the question of what is proper is one for the court to decide. Among the consolidations effected during the year were the St. Louis and San Francisco, which was taken into the Atchison system, and the Cincinnati, New Orleans,

ESTIMATES OF CROP VALUES.

PRODUCTS.	CROP OF 1890.			CROP OF 1889.		
	Yield.	Price, Jan. 1, 1891.	Value.	Yield.	Price, Jan. 1, 1890.	Value.
Wheat, bushels.....	899,362,000	\$1 05½	\$422,219,565	490,540,000	85½ cts.	\$420,653,300
Corn, bushels.....	1,489,970,000	56¼	882,807,325	2,112,892,060	89½ cts.	\$839,574,679
Cotton, bales.....	8,000,000	9½	807,775,000	7,813,726	10½ cts.	871,923,385
Total values.....			\$1,672,501,790			\$1,682,436,155

Manufacturing Industries.—The principal manufactures, including cotton, wool, and iron, were large. The consumption of cotton in the United States for the year to Sept. 13 was 2,349,478 bales against 2,315,603 to the same time in the previous year. The profits were not large, and the dividends paid by Fall River mills were \$1,462,870 against \$1,850,700 in 1889. The results of wool manufacturing were more satisfactory, and the stock of foreign and domestic wool on hand at the close of the year was estimated at 26,000,000 pounds against 36,000,000 at the end of 1889. Iron was active and the demand was good for structural and other purposes. The total production was in excess of that of any previous year. Prices of pig iron declined from \$19.90 in January to about \$17 in December and steel rails from \$35 to \$28.50. The production of anthracite coal was a little in excess of 1889, and stocks at tide-water at the end of the year were smaller. During the closing months of 1890 the stringency in money seriously affected manufacturers, especially at the East. But the failures among them were few, and relief soon came, as money grew more plentiful. Generally speaking, the business of the year was good in all lines of manufactures, and the tendency to overproduction was held in check by

and Pacific, which was absorbed by the East Tennessee, Virginia and Georgia. A steady decline in net earnings after the middle of the year was one cause for a fall in values of nearly all stock properties, and it led to the consideration of plans by which expenses might be reduced and tariffs regulated. Mr. Aldace F. Walker, Chairman of the Interstate Railway Association, which was formed early in 1889, presented his views to leading railroad managers, suggesting the limitation of the powers of agents, especially at competitive points, and the concentration of authority to fix rates and for other purposes. The subject was fully discussed, and finally it was decided to have a conference of railroad managers and bankers, with a view to formulating some comprehensive plan. The meeting was held Dec. 15, at which there were present representatives of the principal Western railroads, and the preliminary steps were then taken for the formation of a new alliance, the details of which were referred to advisory committees from the various lines, who were to meet at the call of the chairman. Before the end of the year all the companies represented had assented to the plan, and it was then expected that the scheme would be perfected at a meeting to be held early in January.

The following shows gross and net earnings of the principal trunk roads. The fiscal year of the New York Central has been changed so as to terminate June 30:

ROADS.	1884-'85.	1885-'86.	1886-'87.	1887-'88.	1888-'89.	1889-'90.
PENNSYLVANIA:						
Gross earnings.....	\$45,615,064	\$50,879,077	\$55,671,218	\$58,172,077	\$61,514,445	\$66,202,960
Net earnings.....	16,182,240	17,739,482	18,884,728	18,840,925	20,417,610	21,221,766
NEW YORK CENTRAL:						
Gross earnings.....	24,429,441	80,506,861	85,297,065	86,192,920	85,696,236	87,008,408
Net earnings.....	8,110,060	11,865,984	12,548,432	8,572,299	9,422,858	12,516,274
ERIE:						
Gross earnings.....	18,094,578	22,590,046	24,210,358	24,882,519	24,595,273	26,454,884
Net earnings.....	4,567,456	6,111,408	6,519,685	6,829,850	6,744,845	6,945,982
BALTIMORE AND OHIO:						
Gross earnings.....	16,616,642	18,422,483	20,659,096	20,358,492	21,263,002	24,412,096
Net earnings.....	5,643,057	6,886,605	6,268,905	6,152,580	6,492,158	7,445,226

The Stock Market for 1890.—The highest prices for leading stocks were this year recorded during the first six months, and the lowest in November, when the market was affected by the financial crisis in London immediately preceding the fall of the house of Baring Brothers. In January active money tended to check speculation early in the month, although the South-westerns were strong, but after the first week, when money grew easier, prices fell off under the lead of Reading and Sugar Trust, to react again after the middle of the month, and the tone was generally strong to the close. The feature early in February was a sharp advance in Reading, due to reports of the formation of a pool in opposition to the management. The Grangers were lower during the entire month, influenced by a fall in Rock Island, and the tendency of the market was downward for nearly all the leading properties. The attempts of a clique of bold operators to obtain control of the Sixth National, the Lenox Hill, and the Equitable banks, had more or less influence upon the speculation after the third week of the month. In March the tendency of the market was upward. Reading advanced sharply in consequence of a squeeze of the shorts; Chicago, Burlington and Quincy improved on the announcement that control of the Chicago, Burlington and Northern had been obtained by it; Atchison, Topeka and Santa Fé rose on reports of largely increased earnings; and there was an advance in Sugar Trust. Toward the close of the month the unsettled condition of political affairs in Europe, resulting from the resignation of Prince Bismarck, caused a slight flurry here, but a recovery soon followed. Louisville and Nashville was temporarily unfavorably affected by news of the damaging cyclone at Louisville and vicinity, and one incident was the unexpected change in the management of the Louisville, New Albany and Chicago. In April Cleveland, Cincinnati, Chicago and St. Louis rose sharply on news that this road and the Lake Shore would control the Wabash and Michigan. Reading advanced on the adjustment of the differences between the management and the pool organized in opposition to it, and the progress made in congress with the Silver bill more or less influenced the whole market during the closing days of the month. Early in May the speculation was tame and the tone irregular, and after the middle of the month the tendency was downward. One feature was the absorption by the Atchison, Topeka and Santa Fé of the St. Louis and San Francisco, which accounted for the rise

in the stocks of the last-named company, and another feature was a fall in Richmond Terminal due to the announcement of an increase in the capital stock. Further progress in Congress with the Silver bill stimulated an improvement in the market during the early part of June, but the effect of this legislation was partly counteracted by the unsatisfactory condition of railroad affairs in the West, which encouraged bearish demonstrations. The decision of the New York Court of Appeals that the Sugar Trust was illegal caused a sharp fall in that property, which more or less affected the whole market, and there was a further disturbing influence in a drop in Chicago Gas due to the appointment of a receiver. At the close of the month the Silver bill was before a conference committee of both Houses of Congress, and it became a law on July 14. The effect of the passage of the bill was discounted, and our market was influenced in great measure by the unsettled state of affairs in London, resulting from the financial crisis and the political revolution in the Argentine Republic, large amounts of the securities of this nation having found a lodgement on the London Stock Exchange. On the 24th the Secretary of the Treasury began to buy bonds for the sinking fund, and this stimulated an improvement in the market by removing fears of stringency in money, and the tone was generally strong to the close of the month. Early in August the speculation was unfavorably affected by a movement of gold to London, which made money active, but the Secretary of the Treasury sought to relieve the monetary situation by offering to redeem 4½ per cents. which mature in September, 1891, and he also began purchases of silver bullion under the new law, paying a little more than the parity of the London price for the metal. The silver-bullion certificates representing silver stored in one of the safe-deposit companies of this city rose rapidly to 121, and this movement was reflected in an advance in the London price for bar silver. The strike of the Knights of Labor in the employ of the New York Central temporarily unsettled the Vanderbilt specialties, but on the collapse of the strike there was a recovery, and the tendency of the market was upward for the remainder of the month. In September the course of prices was downward, the market being affected by stringency in money, persistent selling of the Grangers by the bears, and an unfavorable construction put upon the new tariff bill, which, it was claimed, would have a disturbing effect upon the money market and

upon general trade. The bears appeared to be well organized and aggressive during the greater part of the month, and events seemed to favor them until the third week, when the market was turned upward by the purchase by the Secretary of the Treasury of \$17,071,150 4-per-cent. bonds, which at once relieved the stringency in the money market. After the short contracts had been closed out, and when money grew easier, bearish demonstrations were renewed, and the market was generally lower to the close of the month, with the Grangers and Union Pacific weakest, the former being influenced by the short crops of cereals, and particularly of corn. In October the disquieting condition of financial affairs in London directly affected our market early in the month. It was reported that some large houses had become embarrassed, by reason of heavy losses in Argentine securities and in American railroad stocks, to such an extent that they had to be assisted over at the semi-monthly settlements. Just previous to the last adjustment a syndicate of capitalists assumed about \$25,000,000, par value, of American stocks, in order to relieve houses who were unable to carry them unaided, and news of this action temporarily restored confidence, so far as London was concerned, but the tendency of our market was generally downward. One feature was a fall in Sugar Trust, caused by an injunction order restraining the proposed reorganization, and this litigation resulted in the appointment of receivers for the property. Another feature was a steady decline in the price of silver-bullion certificates, caused by a fall in the market value of the metal in London. The bears freely sold Rock Island, the other Grangers and Louisville and Nashville and the arbitrage houses liberally offered stocks for European account, as the market in London fell off on disquieting rumors immediately previous to each settlement. Active money also contributed to the depression in the market, and there were reports that houses identified with the Villard specialties were embarrassed, which made these properties weak. There were occasional reactions, due to rebuying to cover short contracts, but these were followed by renewed selling, and the market showed a general decline at the end of the month compared with the opening prices. In November there was a panicky fall in values, until about the 20th, when there came a sharp recovery. Almost daily the cable reported an unsettled feeling in London, and the advance in the Bank of England rate on the 7th was regarded as an indication that the situation there was very grave, although it was stated that the bank rate was changed for the purpose of checking a movement of gold to Spain. The statement of the New York associated banks, made public on the 8th, showed a large loss of reserve, and during the following week our market was panicky from local causes. On Tuesday the failure of Decker, Howell & Co. brought about a rapid fall in the Villard securities, with which this house was largely identified. The Bank of North America became embarrassed, and late in the afternoon a meeting of the Clearing-House Association was held, at which it was decided to issue Clearing-House certificates for the relief of this bank, and also of others which might be in need of assistance. The news of

this action had a reassuring effect on Wednesday, although there was continued liquidation in the Villard stocks, and on the following day there was a panicky fall in the shares of the North American Company, on a report that it was insolvent. On Friday afternoon the market was unsettled by news of a semi-panic in London, and on Saturday, the 15th, the cause of this was revealed by the announcement of the suspension of the Barings, and that the Bank of England and strong financial houses had formed a syndicate for the purpose of liquidating the affairs of this house. The shock threw our market into a state of panic, which continued until near the close, when there was an irregular recovery. On Monday the failures of three houses were announced, one caused by forgeries of stock certificates by the junior partner, and there was a rise in the rate for money to 186 per cent. In the afternoon the market grew stronger, but on the following day and on Wednesday it was unsettled and lower at the opening, subsequently recovering. The decision of the governors of the Bank of England to make no change in the minimum rate of discount encouraged a reaction in London which was reflected in our market, and the tendency was generally upward for the remainder of that week, reports from London indicating that the situation there was improving, and that confidence was rapidly being restored. Manipulation for the purpose of compelling a covering of short contracts carried the market more or less rapidly upward during the following week, and the tone was generally strong to the close of the month. Mr. Charles F. Adams resigned from the presidency of the Union Pacific on the 26th, and Mr. Sidney Dillon was elected to fill the vacancy, and the Gould interest again came into control of this property. During the first week in December the market was at intervals vigorously raided by the bears, and one feature was a sharp fall in Union Pacific on a report that the financial condition of the property was much worse than had been represented. The arbitrage houses were free sellers of the Grangers, and there was more or less pressure upon the Villard stocks. The bears were aided in their demonstrations by disquieting rumors regarding mercantile houses and also by the bad bank statement at the close of the week. On the following Monday the advance in the rate of money to 186 per cent. caused a break in the whole market, and about the lowest prices of the month and, in some cases, of the year, were then recorded. Under the influence of easier money, present and prospective, there was a prompt recovery, followed by a dull speculation. The Grangers were favorably influenced by preparations for an important conference of bankers and presidents of Western roads having for its object the formation of an association for the regulation of rates and the reduction of expenses. This meeting was held in this city on the 15th, and it resulted in a preliminary agreement, the details of which were to be arranged at a conference early in the following month. At the same time there was an understanding between the Vanderbilt lines and the Pennsylvania looking to more harmonious relations between these two systems. Before the close of the month the boards of directors of nearly all

the roads represented at the meeting on the 15th had met and appointed advisory committees and given their assent to the general plan. The effect upon the market of this action was not important and the speculation was tame until toward the close of the month. Then the directors of the Lake Shore, Michigan Central, and New York Central, declared extra dividends, which caused an advance in these properties. A disposition on the part of the bears to close out their contracts before the end of the year stimulated a general rise and easy money, the suspension of Bateman & Co. and buying of stocks for their account made the market very strong during the remaining days of the month.

Total sales of stocks at the New York Stock Exchange for the year 1890 were 71,282,885 shares, against 72,014,600 in 1889, 65,179,200 in 1888, and 84,914,616 in 1887. The transactions in Government bonds in 1890 were \$2,625,500, and in railroad and miscellaneous bonds \$401,829,220.

The following table shows the prices of leading stocks at the beginning of the years 1889, 1890, and 1891:

LEADING STOCKS.	1889.	1890.	1891.
New York Central.....	108	107	101½
Erie.....	27½	26½	19½
Lake Shore.....	104½	104½	106½
Michigan Central.....	87½	94½	91
Rock Island.....	102	97½	71½
Northwest, common.....	107½	110	104½
St. Paul, common.....	64	66½	51
Del., Lackawanna and Western.....	144½	135½	131½
Central New Jersey.....	95½	125½	106½

The following shows the highest and lowest prices of a few of the speculative stocks in 1889 and 1890:

	1889.	1890.	
	Highest.	Highest.	Lowest.
Atchafson, Topeka and Sante Fé.....	58	50½	29½
Canada Southern.....	57½	61½	42
Central New Jersey.....	131	128½	90
Central Pacific.....	36½	36½	26½
Chicago, Burlington and Quincy.....	111½	111½	80
Delaware and Hudson.....	156	175	120
Del., Lackawanna and Western.....	151	149½	122½
Erie.....	30½	29½	16
Illinois Central.....	118½	120	85
Lake Shore.....	109½	114½	101
Lead Trust.....	85	244	14½
Louisville and Nashville.....	87½	92½	6½
Manhattan Elevated Consol.....	109½	117	92
Michigan Central.....	92½	104½	83
Missouri Pacific.....	78	79½	53
New York Central.....	110½	111	95½
New York and New England.....	54½	52½	28
Northwestern.....	114½	117	98
Northern Pacific.....	86½	80½	16½
Northern Pacific, preferred.....	75½	86	65
Pacific Mail.....	40	47½	27½
Pullman.....	205½	222	160
Reading.....	50	48½	26½
Richmond Terminal.....	27½	29½	13½
Rock Island.....	104½	98½	61½
St. Paul.....	75½	79½	44
Sugar Trust.....	126	95	48
Union Pacific.....	71½	68½	40
Western Union.....	88½	87	71½

FINE ARTS IN 1890. Under this title are treated the principal art events of the past year, ending with December, 1890, including especially the great exhibitions in Europe and the United States, sales and acquisitions of works of art, and erection of public statues and monuments.

Paris: Salon.—The exhibition of the Société des Artistes Français, in the Palais de l'Industrie, was notable for the absence of several painters of distinction who have heretofore contributed greatly to its success. These artists, among whom are Meissonier, Carolus-Duran, Puvis de Chavannes, Delaunay, Gervex, Duez, Dagnan-Bouveret, Roll, Gustave Moret, and Cazin, withdrew from the Société on account of some dissatisfaction with the management, and established the Société Nationale des Beaux-Arts, which held its first exhibition this year in the Pavillon des Beaux-Arts in the Champ de Mars, left standing since the Exposition Universelle of last year. Though the members of the new society were allowed to send more pictures than in the official Salon, the paintings were few compared with the regular exhibition, but they were mostly of a high order of merit, so that the disaffection considerably impoverished the section of painting in the Palais de l'Industrie.

The Salon (May 2 to June 30) comprised 5,301 numbers, classified as follows: Paintings, 2,480; cartoons, water colors, pastels, miniatures, porcelain pictures, etc., 952; sculptures, 1,196; engraving in medals and precious stones, 62; architecture, 150; engraving and lithography, 461.

Section of painting: Medal of honor awarded to François Louis Français, who received 224 votes to 24 for Benjamin-Constant, 22 for Henri Harpignies, 17 for François Flameng, 5 for Henri Doucet, and 3 for Albert Maignan. First-class medal: Alfred Paul Marie de Richemont. Second-class medals: Maurice Laliepvre, Henri Rachon, Hippolyte Fournier, Evariste Carpentier, Maurice Bompard, Joseph Ferdinand Guedry, P. Franc Lamy, Auguste Charles Mengin, Edmond Yarz, Alphonse Chigot, Armand Beauvais, Aymar Pezant, Albert Lambert, and Paulin Bertrand. Third-class medals: Eugène Clary, Michel Langon, Paul Peel, Mme. Leroy d'Etioilles, Cristobal Rojas, Léon Charles Massaux, François Nardi, Jan van Beers, J. Rouffet, Clément Quinton, Claude Bourgonnier, Edmund Wyly Grier, William Holt Yates Titcombe, Sigisbert Bosch-Reitz, Lucien Simon, Julius L. Stewart, Frederick Melville Du Mond, Frederick Humbert, Albert Lynch, Jules Charles Boquet, Paul Hippolyte Flandrin, John S. Sargent, Ulpiano Checa, Herman Jean Richir, Adolphe Grison, Paul Buffet.

Section of sculpture: No medal of honor awarded. First-class medals: Félix Maurice Charpentier, Denys Puech. Second-class medals: Henri Désiré Ganquicé, Gabriel Edouard Pech, Emmanuel Dolivet, Louis Dominique Mahtet, Pierre Rambaud, Honoré Icard, Georges Tonnellier, Alfred Borrel. Third-class medals: Jules Renaudot, Henri Vidal, Antonio Teixeira-Lopes, Antonin Larroux, Raoul Larche, Georges Récipon, Athanasie Fossé, Antoine Clair Forestier, Barthélemy Caniez, Ernest Dagonet.

Section of engraving: Medal of honor, Frédéric Laguillermie. First-class medal: Gustave Lévy (line). Second-class medal: Augustin Félix Milius (etching). Third-class medals: Jean Tinayre (wood), Louis Joseph Fuchs (lithograph), Charles Giroux (etching), Georges Baudouin (wood), Paul Alexandre Hermanns (lithograph), Maximilien Rapine (line), Charles Bernard de Billy (etching), Mlle. Marguerite Jacob

(wood), Henri Nicolas Dugourd (lithograph), Louis Valère Ruet (etching), Émile Louis Derbier (wood).

Section of architecture: Medal of honor, Gaston Fernand Redon. First-class medals: Lucien Fournereau, Alexandre Marcel. Second-class medals: Léopold Joseph Ridet, Hector Jean d'Espouy, Henri Louis Laffillée. Third-class medals: Alphonse Conin, Louis Marie Cordonnier, Henri Toussaint, Jean Laborey, René Moreau, Henri Schinit, Emmanuel René Le Ray.

François Louis Français, the landscape painter, one of Corot's best pupils, who received the medal of honor in the section of painting, exhibited two works, "Vue de la Sèvre, à Clisson" and "Matinée brumaise—environs de Paris." He received first-class medals in 1848, 1855, and 1867, and a medal of honor in 1878.

Munkacsy's "Allégorie de la Renaissance Italienne," a vast canvas about a hundred metres square, is intended for the ceiling of the Museum of History and Arts, Vienna. Within a portico, surmounted by a cupola resting on rose-colored marble columns, are grouped the great Italian masters of the sixteenth century, with Pope Julius II, in a *loggia* above the rest, examining architectural designs. From the top of the cupola, which opens to the blue sky, descend Fame and Glory, the former blowing her trumpet, the latter holding out the palm, the victor's reward.

Henri Lévy also exhibited a ceiling, entitled "La Liberté," for the decoration of one of the rooms in the Hôtel de Ville, Paris. The City of Paris, personified by a woman, draped in a violet robe, stands on a barricade, surrounded by the dead and dying, lifting one arm toward heaven, offering her slain children to Liberty, who is seen advancing in a chariot.

Jules Lefebvre's "Lady Godiva" represents the deserted street of a town of the middle ages, down which an old woman in a gray gown and white head-gear is leading a large gray horse, upon which is seated a naked, shivering woman, her eyes cast down and her arms folded modestly over her bosom.

Henri Martin contributed "M. Sadi-Carnot, Président de la République, à Agen," an official picture showing the President in his landau, surrounded by half a dozen officials, with some gendarmes keeping back the crowd.

Bonguerneau's "Les saintes femmes au tombeau" and "Petites mendiants" exhibit his usual purity of drawing and academic finish. The second picture shows two young girls whose native elegance is in strange contrast with their ragged clothing.

Detaille's "En batterie," nearly life-size, is one of the best works of the year. A battery of the Artillerie de la Garde of the second empire is driving up through a cloud of dust and smoke. The commanding officer, on a magnificent black horse, reeking with foam, turns slightly to give an order to those behind him. Both man and horse are full of intense life.

Gérôme sent two small pictures, both inspired by his Eastern recollections—"Abreuvoir," camels drinking from a stone trough, in front of a wall covered with polychrome decorations, with their masters seated beside them eating their frugal repast; and "La poursuite," a lion pursuing a herd of gazelles.

Jean Paul Laurens's "Les sept troubadours" represents seven figures in long crimson robes and hoods, seated under some fine old trees in a garden, discussing the statutes of the Academy of Floral Games.

François Flameng sent two military pictures, "La halte, Infanterie de Ligne, 1780," and "L'Armée Française marche sur Amsterdam, 1796."

Jules Breton's "La lavandière" is a robust peasant woman walking briskly along the bank of a stream, carrying on her head a basket full of clothes, which she supports with one hand. "Les dernières fleurs" depicts a young girl in a rustic garden, white with the first snow of the season, cutting some belated flowers.

Ulpiano Checa, a pupil of the Academy of Madrid, contributed "Course de chars Romains," a circus filled with spectators witnessing a race of chariots, one of which is overturned.

Benjamin-Constant's "Victrix" is a nude female figure, with the artist's usual sumptuous accessories—a lion's skin, an Eastern carpet, etc. His "Beethoven, la sonate au clair de lune" shows the master at his piano playing his composition before a few friends, in a room lighted only by moonlight.

Richemont's "La rêve" is a scene from Zola's novel of that title. Vibert's scene from the "Malade imaginaire" is a delightful piece of humor. Poujot's "Dans la tourmente des voluptueux, Dante aperçoit Paolo et Francesca da Rimini" is a representation of Dante's lurid conception of the mass of spirits swept away in a storm. Le Quesne's "La légende du Kerdeck" is the picture of a man enticed into the sea by nymphs. Bisson's "Après l'opération" is a medical subject, with the doctor feeling the pulse of the patient. Moreau de Tours's "Les fascinés de la charité," another medical subject, depicts an experiment on the nervous system of patients in a hospital by Dr. Luys. Luminais's "Rapt" is a powerful picture of a man on horseback carrying off a woman behind him, the horse seen foreshortened.

Portraits were exhibited by Carolus-Duran, Paul Dubois, Bonnat, Jules Lefebvre, Henner, Alma-Tadema, Munkacsy, Loewe-Marchand, Machard, Félix Barrias, and Aimé Morot; and noteworthy landscapes by Harpignies, Yon, Dufour, Pezant, Bernier, and others.

Among the best sculptures in the Salon were Falguière's "Femme au paon," a marble statue of Juno, a splendidly modeled example of a perfect female figure; Lemaire's colossal bronze statue of "Duguesclin," constable of France in the fourteenth century; Roulleau's marble group, "Léda," purchased by the state; Fremiet's equestrian statue, in plaster, of "Velasquez"; Henri Cordier's "Eve," a finely modeled nude in plaster; Denys Puech's marble group, "La Sirène," a fish-tailed siren carrying a youth on her shoulder, purchased by the state; Félix Charpentier's marble statue "La Chanson," an embodiment in a splendidly modeled figure of the abandon of song, which, as well as "La Sirène," won a first-class medal; and Louis Levasseur's "Le premier né," a carefully studied plaster group of father, mother, and child.

More than a hundred American painters and sculptors were represented in the Salon. Among

the best of the works shown were F. P. Vinton's "Portrait of Mme. V.," Henry Bacon's "A Corsican Bandit," Julian Story's "Portrait of my Father," Charles S. Pearce's "A Widow," Frank C. Penfold's "A Fine Evening," Walter McEwen's "The Absent One," James L. Stewart's "Spring Flowers," Ogden Wood's "Salt Meadows of Morseline," James M. Whistler's "Nocturne in Blue and Silver," Charles H. Davis's "The Stream," D. F. Boyden's "End of a Fine Day," Walter Gay's "Young Girl with Geraniums," and William Lee's "Promenade in the Park."

Paris: Société Nationale.—The exhibition of the new society (May 15 to June 30) comprised 1,409 numbers. No limit was set to the number of works sent by each artist, and foreigners as well as Frenchmen were invited to contribute. Neither medals nor rewards were given. The members will consist of: Foundation members; sociétaires, who will join on invitation; and associates, artists whose works are adjudged worthy of admission by an assembly of members.

Meissonier's "Octobre, 1806" represents another episode of the Napoleonic era for which the painter has done so much—the Battle of Jena. The Emperor, in his gray coat and on a white horse, surveys from a small rise of ground the operations of a division of cuirassiers advancing to the plains beyond. Behind him is a group of officers in brilliant uniforms, and in front three guides in red dolmans keep watch, rifle in hand. All of the painter's peculiar qualities—precision in drawing, technical skill, and exquisite finish of details—are exhibited in this work, though the figure of Napoleon is somewhat heavy.

Puvis de Chavannes occupied the place of honor at the end of the principal gallery with a vast decoration for the staircase of the new museum at Rouen, called "Inter artes et naturæ." Figures are grouped in an orchard, some drawing and some studying fragments of broken statues. In the background is seen the city of Rouen, with the cathedral and the church of St. Ouen well defined against the sky.

Léon Lhermitte contributed a large panel, destined for the decoration of one of the halls of the Commissions of the Faculty of Science, entitled "Sainte-Claire Deville," a chemist in his laboratory surrounded by his pupils. He exhibited also three exquisite cabinet pictures, "Repos des moissonneurs," "La soif," and "Les foins."

Carolus-Duran exhibited several powerful portraits, four of them full-length women, and a fine study of the nude, a woman with red hair, seated, back view, on a red cushion before a red hanging which brings her figure into relief.

Roll contributed portraits of "Jeanne Hading" and of "Coquelin Cadet" and pictures entitled "L'Enfant avec sa bonne," "Étude sur la Seine en 1889," and "Mer funèbre."

Dagnan-Bouveret showed "Cimetière de Sidi Kebir," "Bords de rivière," and a portrait. Lerolle, two large decorative pictures intended for a church, "Saint-Martin donne la moitié de son manteau à un pauvre," and "Jesus-Christ apparaît à Saint-Martin." Gervex exhibited the editorial room of the "République Française" newspaper, with the chief editors grouped around a table, some seated, and the rest standing. Béraud has

grouped the crowd around a gaming table at Monte Carlo in his "Rien ne va plus!"

Paris: Miscellaneous.—The sale of the atelier and collection of the late Jules Dupré, in Paris, Jan. 30, realized 208,760 francs. Among pictures and studies by the artist were: "La rentrée à la ferme," 20,000 francs; "Le repos des moissonneurs," 4,100; "Les trois arbres," 8,000; "Un moulin au Crotoy," 5,250; "Bords de rivière le Soir," 10,400; "Sous bois," 10,100; "Pleine mer," 5,500. Of his private collection, Corot's "Le concert" was bought by the Duc d'Aumale for 40,000 francs, and "Crépuscule," 8,100; Géricault, "Portrait de Jamar," 6,000.

The collection of the late Don Sebastian de Borbon y Braganza, owned by the Duke de Durcal, which found no buyers in New York last year, was sold in Paris, Feb. 3, at an aggregate of 111,710 francs. The best prices obtained were: Carreño de Miranda, "Portrait of Charles II of Spain," 15,200 francs; Jan van Eyck, "Adoration of the Magi," 17,000; Holbein, "Portrait of Jeanne la Folle," 7,300; Quentin Matsys, "Savior of the World," 17,100; Teniers, "Village Fête," 5,000. The principal picture, Murillo's "Virgin of Mount Carmel," was bid in at 60,000.

The sale of the studio effects of the late Ferdinand Heilbuth, at Paris, in May, produced 227,226 francs. The artist bequeathed all his property to the Société des Artistes Français. Among the best prices obtained for pictures were: "Five o'Clock Tea," 8,200 francs; "Le passage," 8,050; "La margelle," 6,200; "Au jardin," 6,000; "Le passeur à Neuilly," 6,000; "Fleurs des Champs," 5,000; "Le ponton de Neuilly," 4,550. Corot's "Paysage au bord de la mer" brought 5,850.

The sale of the Rothan collection, held in Paris, May 29-31, produced 1,093,090 francs. Among the best prices obtained were: Lucas Cranach, "Portrait of Luther," 5,600 francs. Albert Cuyt, "Marine," 8,500. Antony Vandyke, "La ronde des amours," 5,600. Frans Hals, "Femme au gant," 38,000; "L'Homme au manteau gris," 6,500; "Les buveurs," 5,100. Jordans, "Portrait d'un syndic," 58,000. A. van der Neer, "L'Hiver en Hollande," 8,800. A. van Ostade, "Le Flamand grivois," 8,500. Palamedes, "Portrait," 15,500. Porbus, the younger, "Marie de Medicis," 17,200. J. Ruysdael, "Le Champ de Blé," 24,000; "L'Hiver," 8,000; "Vue de Hollande," 7,500. S. Ruysdael, "Dordrecht," 8,000. Teniers, the younger, "Le fumeur," 11,500. Boucher, "La musique," 24,500; "Le Peinture," 24,500; "Le moulin," 12,100. Canaletto, "Le palais des doges," 15,000. Guardi, "La pazetta, Venice," 18,000.

The sale of the Ernest May collection, Paris, in June, brought 500,060 francs in the aggregate. Among the best prices obtained were: Corot, "La femme du pêcheur," 13,700 francs; "La Rochelle," 12,100; "Le Pont Saint-Auge à Rome," 21,100; "Grand canal à Venise," 10,200; "L'Entrée du village," 16,500; "Le lac de Genève," 10,000. Millet, pastel, "Le Vigneron," 17,600; "Berger et son troupeau," 29,600; "La fin de la journée," 25,500; "La meridienne," 11,300.

The sale of the collection of Prosper Crabbe, of Brussels, in Paris, June 12, produced 1,589,900 francs. Among the highest prices obtained were: Corot, "Le matin," 63,000 francs; "Le soir,"

60,000; Decamps, "Les mendiants," 9,800. Delacroix, "Chasse au tigre," 76,000. Diaz, "La meute sous bois," 27,500. Jules Dupré, "La forêt," 25,000. Fromentin, "Une halte de cavaliers Arabes," 42,000. Gérault, "Une charge d'artillerie," 12,500. Meissonier, "Le guide," 177,000; "Le billet-doux," 43,500; "Molière lisant," 35,000. Millet, "Une famille de paysans," 20,500. Th. Rousseau, "Paysage," 30,500; "Les chênes," 34,000. Alfred Stevens, "Ophélie," 29,500; "Fedora," 15,000; "Le masque Japonais," 15,000. Troyon, "Le garde-chasse et ses chiens," 40,000; "Départ pour le marché," 65,000; "La vache blanche," 85,000. Rembrandt's "Portrait of an Admiral," 106,500. Rubens's "Holy Family," 12,000; "Portrait," 15,000; "Portrait of Dame van Parys," 25,000; "Martyrdom of Saint-Liévin," 27,500; "Lion Chase," 15,000. Nattier, "Portrait of Mme. de Flesselles," 75,000. Paul Potter, "Les Pourceaux," 32,200. Frans Hals, "Violin Player," 46,500.

Meissonier's "1814," recently purchased in Paris for 500,000 francs, has been sold to M. Cauchard, ex-manager of the Magasins du Louvre, it is said, for 850,000 francs. It represents Napoleon in the campaign in France in that year, and not "riding over the dreary Russian snow fields," as said in the "Portfolio." The picture was commissioned by M. de la Hante, who paid for it 70,000 francs. After the Franco-German War it was sent to London and offered for sale at £12,000, but found no purchaser, and was returned to Paris. It was exhibited at the Exposition Universelle last year. M. Cauchard also is said to be the purchaser of "The Angelus," soon to be returned to France, at the price of 750,000 francs.

Millet's "Les Glaneuses," bequeathed to the French nation by Mme. Pommery, of Rheims, has been placed in the Louvre on an easel.

The Duc d'Aumale has purchased from the Earl of Carlisle a collection of 314 French drawings in black and red chalk, portraits of personages associated with the courts of Henri II, François II, and Henri III. Among them are portraits of François II and of Mary, Queen of Scots.

The equestrian statue of Jeanne d'Arc, by Emmanuel Frémiet, exhibited at the Salon of 1889, has been presented by public subscription to the city of Nancy, and erected in the Place Carrière. The statue is a replica, with changes, of the one in the Place des Pyramides, Paris.

A monument to Eugène Delacroix, the work of the sculptor Dalou, was inaugurated in the garden of the Luxembourg, on the 5th of October. From the middle of a marble basin rises an elegant stylobate crowned with a bronze bust of the painter. The steps of the pedestal bear various emblematic groups, also in bronze.

A statue of Hector Berlioz, a reproduction of the one in the Square Vintimille, Paris, was unveiled, Sept. 29, at Côte-Saint-André.

A statue of Voltaire, by E. P. Lambert, has been erected at Ferney, Switzerland.

London: Royal Academy.—The twenty-first winter exhibition of works by the Old Masters and by deceased British artists was noteworthy, like the last one, in containing no pictures of the Italian school, only Flemish, Dutch, and Spanish masters being represented. Among the Flemish and Dutch pictures were the Earl of Yarborough's

Rembrandt, "Portrait of an Old Lady," and Lord Ashburton's "Portrait of the Painter," Vandyke's "Portrait of an Artist," and a group of full-length portraits of the Vere family, mostly anonymous. Several famous portraits by Velasquez, from the Royal and other collections, and works by Del Mazo, Zurbaran, and Murillo, were in the Spanish section. The English school was represented by Reynolds, Gainsborough, Romney, Constable, and Turner.

The one hundred and twenty-second annual exhibition of the Royal Academy contained 2,119 numbers, including oil and water colors, pastels, black and whites, and sculptures.

Sir Frederick Leighton's "Solitude" represents a white-draped figure seated on a ledge of rock, resting her cheek upon her hand, with a background of rock and crag, and in the foreground the brown, motionless water of a mountain spring. No other figure is visible, and the silence of death broods over the scene.

"The Tragic Poetess," a companion picture, is a life-size, full-length figure, clad in a pale-blue pallium and a purple stola, seated in a marble chair on a terrace high above the sea, the surface of which is broken by long ridges of waves and lines of foam. The hands of the poetess express the passion of her mood, and her dreamy eyes gaze beyond the world. These two pictures are very poetical in design and execution.

Sir Frederick's third picture, "The Bath of Psyche," which has been purchased for the nation with the Chantry fund, represents a full-length, life-size figure, partly draped, standing nearly in profile at the side of a bath of white marble. She is just dropping her last garment before entering the water, where her form is reflected. Her fair flesh is relieved by the white linen, which is in contrast with the deep purple of a curtain extending from column to column behind her. Above the curtain is an intensely blue sky with summer clouds.

Alma-Tadema's principal contribution is entitled "The Frigidarium." The scene is the dressing-room of a bath for ladies in the time of Hadrian. The low room is lined, ceiled, and paved with marble, the varied colors of which harmonize with the prevailing white. Beyond is an ante-chamber, partly screened by a richly colored *portière*, while in the distance is the bath itself, lined with white marble and filled with water, open to the sun and resplendent with light. In the tiring-room stands a stately lady, who has just left the tepidarium, in a loose robe of pale gray-green, with an attendant stooping to fasten her mistress's purple girdle. On the floor are towels and a sponge, and on a shelf are the lady's jewels. Another bather is coming forward across the ante-room, a servant pulling back the curtain to let her pass. Round the bath itself are seen the nude figures of several girls in the sunlight.

Luke Fildes sent a subject picture and three portraits to the exhibition. The former, "A Daughter of the Ghetto," is a life-size figure of a slender young girl, in a pink dress with a red shawl over her head, carrying a copper vessel and passing a stall laden with fruit, the colors and texture of which are painted as a contrast to the maiden.

Briton Riviere's "Rus in Urbe" represents a

street scene in a country town. A country lad on a step in the doorway of a house gazes at the unaccustomed scene in a half-curious, half-negligent way, while clasping with his arm the neck of an excited collie dog, whose erect ears, staring eyes, open mouth, and quivering tongue exhibit his wonder at the busy world he sees for the first time. The humor of the design is capital, and the dog is worthy of Landseer's best time.

Val Prinsep contributed a picture of life-size, full-length figures, entitled "Diva Theodora Imperatrix." The Empress stands as if on the steps of her throne, resting one hand on the head of the golden lion which serves as an arm of her gorgeous chair. She wears a sumptuously jeweled crown, a golden breastplate inlaid with precious stones, and a purple mantle, the weight of which is partly borne by an attendant on her left, while on the other side another dame holds her fan. Behind the throne is a splendid mosaic of Christ in majesty and surrounded by the angelic choir.

Edwin A. Abbey sent to the exhibition his first achievement in oil colors, entitled "A May Day Morning." It represents a lover and his lass tripping along a garden path near a wall on which fruit trees are trained and through a door in which the sunlight pours. The man, dressed in white, with a mandolin under his arm, holds the maiden's hand in his own, and laughs gleefully as the twain dance toward us. The lady is in a black gown with white stripes, and a red and white kirtle.

Edward J. Poynter, occupied with his large work, "The Queen of Sheba's Visit to Solomon," contributed this year a comparatively minor picture, entitled "On the Temple Steps." A slender, dark-eyed girl, dressed in a loose, white tissue through which her limbs are partly seen, leans with crossed arms, shading her face with a red palm fan, against a parapet on a steep flight of marble steps leading from the shore to an acropolis in the background. Bread, melons, and pomegranates are heaped in profusion on a table beside her.

Hubert Herkomer's picture "Our Village" depicts a scene from the daily life of Bushey, the place of his residence, with laborers returning from work, just after sundown has left the air aglow. Mr. Herkomer has been elected a full academician.

John Collier's "Death of Cleopatra" depicts in a huge canvas the rigid form of the queen stretched on a splendid couch, beneath the colossal black effigies of Egypt's gods, with her maid Iras lying dead on the pavement beside her, and Charmian, ready to swoon, timorously listening for footsteps.

Albert Moore's "A Summer Night" is a large decorative picture, in which several half-nude statuesque female forms, with blonde tresses loosely bound, lie on classical couches draped with steel-blue, primrose, and deeper yellow draperies. The terrace on which they lie is decorated with wreaths of yellow pansies, and looks out upon a moonlit sea.

Solomon J. Solomon's "Hippolyta" shows in the red light of sunset the queen of the Amazons vanquished by Theseus, to whom she appears quite willing to yield.

A. C. Gow's "After Waterloo" represents the retreat of the French from the fatal field, with

their Emperor riding moodily along with his staff, and a wilderness of banners, lances, bayonets, and swords behind in a confusion which attests the hurry and fear of the bearers.

Frank Dicksee's "Redemption of Tannhäuser," from the last act of the opera, is a conventional stagey picture, but well arranged and strongly colored. The heroine, Elizabeth of Hungary, lies on a bier, mourned by a bishop with his acolytes and by knights, with the pilgrims at the right, and monks with torches at the left. In front kneels the expiring Tannhäuser, truly repentant at last, while in the background Venus is disappearing in a lurid radiance.

Legsdail's "Ninth of November" represents the progress of the Lord Mayor's show westward, with the Bank of England and the Exchange behind the crowded pavements. It is a large canvas full of figures excellent in grouping and foreshortening.

Frank D. Millet's "How the Gossip grew" is a delicately painted interior, with two young ladies seated at a breakfast table. One of them reads aloud from a letter, and the other, listening, pauses in the act of drinking tea. It is firmly painted, and fine in color and modeling.

R. W. Macbeth's "The Cast Shoe" has been bought with the Chantrey fund. Sir John Gilbert's "Onward!" depicts a knight-banneret charging. G. A. Storey's "The Hungry Messenger" is a clever piece of humor of the Puritan time. Stanhope Forbes's "By Order of the Court" represents a forced auction in a humble dwelling. George H. Boughton's "The Puritans' First Winter in New England" is one of his characteristic pictures, with groups of Puritan settlers waiting for a relief ship in a wintry landscape. Ernest Crofts's "Whitehall: Jan. 30, 1649," depicts the execution of Charles I. J. B. Burgess's "Freedom of the Press" shows some French priests horrified by newspaper attacks on their order, which one of them is reading aloud. George F. Watts's "Patient Life of Unrewarded Toil" represents an old white horse turned out to get his living as he can. Thomas Faed's "The Shepherd's Wife" shows a woman looking anxiously out of a cottage window into a snowy landscape. "The Anxious Lookout," a picture of similar motive, represents a fisherman's wife on the beach, with two children grasping her dress, gazing seaward over angry waves.

London: Grosvenor Gallery.—The winter exhibition was devoted to pictures illustrating "sport," with numerous specimens of hunting weapons, implements, and trophies, ancient and modern. Sir Edwin Landseer was well represented, among the exhibits being his "Monarch of the Glen," "The Sanctuary," "Otter and Salmon," "Hunter and Hounds," "The Challenge," "The Swannery invaded by Eagles," "The Shrew tamed," and the "Deerstalker's Return." Other noted pictures were E. Nicol's "Steady, Johnnie, Steady!" C. Haag's "Evening at Balmoral Castle," Rubens's "Wolf Hunt" and "Diana returning from the Chase," Snyders' "Eagle mobbed by other Birds," "Wild Boar Hunt," and others, Morland's "Innocence alarmed," Stubbs's "Hunter and Arabian," Cooper's "Mare and Foals," Cuypp's "Wild Ducks," and Courbet's "Roe-Deer in the Snow."

The fourteenth summer exhibition of the Gros-

venor Gallery contained nearly 490 numbers, including oil and water-color paintings, pastels, and sculptures. Among the best works were Sir John Millais's portrait of "Master Ranken," a handsome boy of eight with long brown hair, in green velvet, with hat in hand, and J. M. Swan's "Maternity," a life-size group of a lioness suckling her cubs. Mrs. M. Stokes's "Light of Life," a large picture with figures nearly life-size, depicts the Virgin seated on the floor of a stable by the side of her Son's cradle, lost in a day-dream of his future. Mr. Orchardson contributed a portrait of himself.

London: New Gallery.—The Tudor Exhibition in the New Gallery last winter illustrated the period of English history between the accession of Henry VII in 1485 and the death of Queen Elizabeth in 1603. Among the 490 pictures contributed, were 83 Holbein drawings, lent from Windsor by her Majesty, and 81 selected miniatures of the time. Besides the pictures, the exhibition included coins and medals, casts of royal and ecclesiastical seals, arms and armor, plate, books, etc. Among the most interesting relics were the ring Elizabeth gave to Essex, the baby clothes she made for Mary when an heir was looked for, two cups given by her to Sir Francis Drake, and the lock of hair that she gave to Sir Philip Sidney.

The third annual exhibition, opened May 1, contained 436 pictures, drawings, and sculptures. Burne-Jones and Legros, two of the leading supporters of the gallery, were unrepresented in oils, but paintings were contributed by Watts, Poynter, Alma-Tadema, G. D. Leslie, J. Waterhouse, E. A. Waterlow, R. W. Macbeth, Charles Hallé, Albert and Henry Moore, Ernest Parton, John S. Sargent, Adrian Stokes, Onslow Ford, Haynes Williams, A. Gilbert, and C. Wylie.

Alma-Tadema's "In the Rose Garden" depicts two Roman damsels resting on a bench of Siena marble, over one end of which a large rose bush laden with blossoms spread its arms. One lies with her head in the lap of her companion, who shakes rose leaves upon her. "Eloquent Silence," by the same artist, shows a dark-haired Greek maiden, soon to be a bride, sitting meditatively on a bench with both her hands in her lap, with a soldierly young noble by her side striving to mask his own emotions by pushing away the leaf of a flower fallen near his mistress's foot.

Poynter's "High Noon" represents a nude girl on the seashore, who has just left the water and seated herself on a rock, where she leans sidewise and swings her feet over a little pool left by the tide.

George F. Watts's "Ariadne" shows her sitting on the shore, sorrowful and disheveled, looking seaward. She is clad in white and her loosened red zone lies across her knee.

Sir John Millais's "Dew-drenched Furze" is an autumnal scene in a dense wood ending in a lofty mass of ruddy beeches, russet oaks, and gray larches, the tops of which are lost in the mist that is beginning to yield to the sun's rays.

Prof. Costa exhibited a fine group of landscapes and coast pieces. Mr. Herkomer and Mr. Richmond sent portraits.

London: Miscellaneous.—The National Gallery has acquired from the collection of the Earl of Radnor Holbein's "Ambassadors," the

largest known work of the painter (signed and dated 1533), Velasquez's "Admiral Pulido Pareda," one of his best works out of Spain, and a portrait by Moroni. The total price of the three was £55,000, of which the Government contributed £25,000 and the remainder was guaranteed by gentlemen in London. The gallery has also acquired the large picture by Tintoretto, called sometimes "The Nursing of Hercules" and sometimes "The Origin of the Milky Way," which formerly belonged to the Orleans collection and later to Earl Darnley.

Mr. Burne-Jones's series of four paintings for mural decoration (each 11 feet x 5 feet), on which he has worked the past seven years, called "The Legend of the Brier Rose," illustrates the old legend of the Sleeping Beauty. The first picture, "The Brier Wood," shows the prince entering through the thicket of blossoming brier among the bodies of the knights of every age who have been overcome by sleep in their attempts to break through and rescue the princess from her enforced slumber. In the second, "The Council Room," the white-bearded king nods on his bronze throne above the recumbent forms of his courtiers. In "The Garden Court" are sleeping girls, some beside the fountain, some at the distaff and the loom, in every graceful attitude of arrested motion. "The Rose Bower" shows the princess sleeping on a low couch amid her sleeping maidens. The pictures were shown at the Agnew Gallery.

Mr. Poynter's large picture, "The Meeting of Solomon and the Queen of Sheba," on exhibition in London the past season at Maclean's Gallery, is likely to add to the artist's reputation. The sumptuously appareled figures of the Queen and the King stand out from the background of splendid architecture and from the ring of spectators on the alabaster podium of the velarium-shaded court with its red and golden pillars. In the foreground are the Queen's beautiful slave girls and attendants bearing gifts. The draperies of the royal group are comparatively quiet, but the Queen is resplendent with jeweled ornaments on bare bosom and arms.

George Frederick Watts is to bequeath thirty-seven of his pictures to the nation. Among these are, of his greater compositions, "Love and Life," "Love and Death," "Hope," "Time, Death, and Judgment," "The Spirit of Christianity," "The Minotaur," "The Court of Death," "Death crowning Innocence," "The Messenger of Death," and "The Brewer's Horses." The remainder are portraits, including those of Tennyson, Browning, Carlyle, Matthew Arnold, Morris, Mill, Swinburne, Rossetti, Motley, Gladstone, Cardinal Manning, Lord Salisbury, and the Duke of Argyll, most of which were exhibited at the Metropolitan Museum, New York.

One of the most important art sales of the year was that of the collection of the late William Wells, begun in London on May 4. The 104 lots brought in the aggregate £76,945, the 30 Landseers alone selling for £42,000. The following were some of the best prices obtained: Landseer, "A Highland Interior" (1831), £2,415; "Grouse," £1,113; "Black Cock and Gray Hen" (1833), £1,260; "Teal and Snipe," £1,207; "Partridges" (1833), £1,470; "The Shepherd's Grave," £1,260; "The Woodcutter," £2,310; "The Hon-

cymoon," known as the "Roebucks," £4,042; "Deerhound and Mastiff" (1838), £1,470; "None but the Brave deserve the Fair" (1838), £4,620; "Otter and Salmon" (1842), £1,365; "Not caught yet" (1843), £3,150; "Terrier and Dead Wild Ducks" (1845), £2,730; "Spaniel and Pheasant" (1845), £1,575; "Retriever and Woodcock" (1845), £2,205; "Browsing" (crayon drawing, 1857), £2,200. William Mulready, "A Dog of Two Minds," £1,213. Sir Joshua Reynolds, "Meditation" (1819), £1,155. C. Stanfield, "Near Sepolina, Como," £1,113. Turner, "Sheerness," £7,450 (sold in Dobree sale, 1842, for £178 10s., and in Baring sale to Mr. Wells for £577 10s.). D. Wilkie, "Distraint for Rent," £2,310; "The Jew's Harp" (1807), £446. R. Wilson, "The Village Festival" (study of National Gallery picture), £1,890. Hobbema, "View in Westphalia," £2,855. Rembrandt, "The Artist's Wife," £1,690. Jacob Ruysdael, "The Flooded Road," £997. W. Vandervelde, "Sea View with Boats," £1,207. Murillo, "Head of a Bacchante," £1,365.

At the sale of the pictures of the late John Cawardine, Feb. 22, George Romney's "Contemplation—Lady Hamilton" brought £1,102, and his "Mrs. Butler," £1,837; Sir J. Reynolds's "General Morgan," £315, and "The Death of Dido" (1781), £420; Sir David Wilkie's "The Pinch of Snuff," £278.

At a sale of the pictures of Rev. T. H. Tragett and others, March 1, William Collins's "Shrimp Boys at Cromer" brought £1,260; his "Capstan at Work" (1820), £840; and "The Kitten deceived" £682. John Linnell, Sr., "The Flight into Egypt" (1841), £556. Edwin Long's "A Question of Propriety" (1870), £1,050.

At a sale of the pictures of the late C. R. Pemberton and others, March 17, Frans Hals's "Portrait of a Gentleman" brought £1,995.

At the sale of the collection of the late William Carver, of Manchester, March 22, 13 of the principal works of George F. Watts were disposed of at good prices. Among the highest were: "The Red Cross Knight and Una," £1,732; "Love and Death," £1,386; "The Rider on the White Horse," £1,522; "The Rider on the Red Horse," £236; "The Rider on the Black Horse," £388; "Death on the Pale Horse," £236.

At a sale of pictures of the English school, March 29, George Romney's "Sensibility—Lady Hamilton" brought £3,045. C. R. Leslie's "Princes in the Tower" sold for only £12, showing the present-day depreciation of that artist.

At a sale of various owners, April 26, Sir Edwin Landseer's "Uncle Tom and his Wife for Sale" (1857) brought £1,291. Sir John Millais's "Asleep," £1,400. J. Linnell, Sr., "The Harvest Field," £1,701; "The Road through the Forest," £1,102.

At the sale of the collection of Charles Neck, May 3, J. C. Hook's "The Nearest Way to School" brought £1,417; "Cornish Mermaid," £1,417; and "Tis an Ill Wind that does Nobody Good," £2,572. John Linnell, Sr., "Pons Asinorum," £945; "The Barley Harvest," £1,207; "Woods and Forests," £1,995; and "Pointing the Way," £1,197.

At a sale of various owners, June 21, Frans Hals's "Portrait of his Wife" brought £1,837; "Immaculate Conception," by Murillo, £399.

At the sale of the Farnley Hall collection of Ayscough Fawkes a large number of water-color sketches by Turner were disposed of at good prices, 29 of them realizing sums over £100 each. Among those which brought more were: "Widdermere," £1,200; "Loch Tyne," £724; "Vevey," £907; "Valley of Chamouni," £840; "Lausanne," £735; "Lake Lucerne from Fluelen," £2,310; "Mont Blanc," £1,050. The following in oil, also by Turner, were sold; "Lake of Geneva," £2,625; "Scene in the Apennines," £808; "The 'Victory' returning from Trafalgar," £2,152; "The Sun rising in a Mist," £1,050.

The Stover collection, late the property of the twelfth Duke of Somerset, was sold on June 28, together with several other properties. Among the 53 pictures from Stover House were: Paul Potter, "The Dairy Farm," (1646), £6,000; Hobbema, "Woody Landscape," £2,730; Gainsborough, "Portrait of Lord Hamilton," £4,410, and of Alexander, Duke of Hamilton, £1,575; Vandyke, "Queen Henrietta Maria," £1,050; John Hopper, "Portrait of a Lady," £1,575; Rubens, "Portrait of a Philosopher," £315. On the same day was sold Romney's "Lady Hamilton as Circe," £4,042; Vandyke, "The Marquis of Vieuville," £945.

Gibson's famous statue, "The Tinted Venus," executed in Rome in 1852, and exhibited at the London Universal Exhibition of 1862, was sold at Christie's, June 28, for \$9,185.

An equestrian statue of Prince Albert was inaugurated in the park of Windsor Castle, May 12, in the presence of the Queen and the royal family and of the King of the Belgians. The statue was given by the women of England to the Queen on the occasion of her Jubilee.

The Bern Exhibition.—The first national exhibition of the fine arts in Switzerland was held at Bern, May 1 to June 12, in the halls of the Kunst Museum. It comprised 403 works, of which 280 were in oil, 63 water colors and pastels, 33 sculptures, and the remainder engravings, designs, pictures on porcelain, etc.

Dresden Exhibition.—The third annual water-color exhibition, held in August and September, comprised 2,500 numbers. Gold medals were awarded to Charles Gehrts and Eugene Dükier, both of Düsseldorf. Silver medals to Hans Herrmann, Berlin; Heinz Heim, Darmstadt; and Alessandro Zezzos, Venice. Diplomas to Mme. Courtois, Lhermitte, Dagnan-Bouveret, Paris; and Eugène Jettel, Vienna.

The Hague Exhibition.—The exhibition held in the Academy of Painting in the Princessegracht, was opened on the 12th of May and closed on the 29th of June.

Munich Exhibition.—The third annual exhibition at Munich opened July 1 and closed Oct. 15. The following awards were made in the section of painting: First-class medals to Robert Haug, Stuttgart; Albert Menhuys, the Hague; James Guthrie, Glasgow; Paul Albert Besnard, Paris. Second-class medals to Carl Seiler, Munich; Ovien Pech, Munich; Gottfried Kallstenius, Stockholm; Leo van Aken, Antwerp; Alexander Struys, Mechlin; Alexander Harrison, Paris; Arthur Kampf, Düsseldorf; Theophilus de Bock, the Hague; Jean Boldini, Paris; Julien Dupré, Paris; K. Pochwalski, Cracow; Albert Caertsoër, Ghent; John Robertson

Reid, London; John Lavery, Glasgow; Luis Jimenez, Paris; Alfred Pierre Agache, Paris; Juan Planella y Rodriguez, Barcelona; Marcel André Baschet, Paris. First-class medal in sculpture, E. van der Stappin, Brussels; in architecture, Alfred Waterhouse, London; in engraving, Wilhelm Unger, Vienna.

Vienna Exhibition.—The fine arts exhibition was open from March 15 to May 15.

Ulm Cathedral.—A grand celebration was held at Ulm in commemoration of the completion of the cathedral, which was begun in 1377. After three hundred years' consecutive work upon it, the building was interrupted by the Reformation. In 1844 a committee of citizens undertook the task of finishing it on the primitive plan, the cost being partly defrayed by a lottery. The spire which crowns the edifice is the highest in the world, being 524 feet, or five metres higher than that of Cologne. The building will hold 30,000 persons.

A statue of Hernando Cortez was unveiled, Dec. 2, in his native city of Medellin, Estramadura, Spain, in the square formerly occupied by the Cortez homestead. The statue, which represents the conqueror of Mexico in full military dress, with the staff of command in his right hand and the flag of Castile and Leon in his left, stands on a massive pedestal in the shape of a fifteenth-century fortress, bearing on its four sides broken Aztec weapons and the inscriptions: "Mexico," "Tlascala," "Otumba," "Tabasco." On the front is "Hernan Cortez" and the coat of arms granted him by Charles V on his return from Mexico. It is the work of a young sculptor, Eugenio Barron.

The famous group of four "Negroes' Heads," by Rubens, has been acquired by the Belgian Government at a cost of 80,000 francs and placed in the Brussels Museum. It was sold in 1967, in the Pommersfelden collection, to Prince Narischkine for 35,000 francs, and passed thence to Prince Demidoff in 1883 for 55,000 francs. This picture was attributed to Van Dyck in the Pommersfelden catalogue of 1719, but in the next edition was given to Rubens.

United States: Exhibitions, etc.—The National Academy of Design, New York, now consists of 96 academicians and 51 associates. The officers for 1890-'91 are: President, Daniel Huntington; Vice-President, T. W. Wood; Corresponding Secretary, T. Addison Richards; Recording Secretary, H. W. Robbins; Treasurer, Alfred Jones.

The sixty-fifth annual exhibition (April 1 to May 10), contained 600 numbers, including oils, water colors, and sculptures. Among the noteworthy pictures shown were: Kenyon Cox's "The Approach of Love," a nude female half reclining on yellow drapery on a marble bench, with a blue-winged Cupid climbing up at the other end; Horatio Walker's "A Barnyard," an excellent study of pigs; Homer Martin's "Wild Coast near Newport"; W. H. Lippincott's "Love's Ambush," a pretty girl of colonial times hiding behind the door as her lover enters; H. R. Butler's "Church of Aguas Calientes"; Will H. Low's "Love disarmed"; F. D. Millet's "Antony van Corlaer"; and Walter Shirlaw's "Rufina," a study of the nude.

The Thomas B. Clarke prize of \$300 for the

best American figure composition painted in the United States was awarded to Edmund C. Tarbell, of Boston, for his "After the Ball." The Norman W. Dodge prize of \$300 for the best picture painted in the United States by a woman was awarded to A. M. Richards, of Newport, R. I., for her "An Interlude to Chopin." The Julius Hallgarten prizes of \$300, \$200, and \$100 were not awarded, but will be added to those of next year.

The ninth autumn exhibition (Nov. 24 to Dec. 20) comprised 385 numbers. Among the noteworthy works were three portraits, by John S. Sargent—Lawrence Barrett, Joseph Jefferson as Dr. Pangloss, and a full-length of Mrs. E. L. Davis and son.

The American Water-Color Society held its twenty-third annual exhibition at the Academy of Design, New York (Feb. 3 to March 1), with 645 numbers. Among the more prominent exhibitors were Edwin A. Abbey, Hamilton Gibson, Henry Farrar, William Magrath, Thomas Moran, Walter Shirlaw, Bruce Crane, Childre Hassam, W. T. Smedley, Ross Turner, Bolton Jones, Murphy, Wiggins, Weir, and Wiles. The Evans prize of \$300 was awarded to W. T. Smedley's "Thanksgiving Dinner."

The twelfth annual exhibition of the Society of American Artists, held at the Fifth Avenue Art Galleries, New York (April 28 to May 24), was one of the best of American pictures ever held in this country. Among the best known contributors were John S. Sargent, whose portrait of "Carmencita" attracted much attention, Win. M. Chase, Kenyon Cox, Will H. Low, J. Alden Weir, Robert A. Eichelberger, R. C. Minor, Walter Shirlaw, and John H. Twachtman. Two landscapes by Roger Donoho and a landscape by W. Lathrop—almost unknown names—showed careful and conscientious study. The annual Webb prize of \$300 for the best landscape by an American artist under forty years of age was awarded to Theodore Robinson for his "Winter Landscape."

The exhibition of the Society of American Artists, at Chicago, in June, was a repetition of the New York exhibition, with a few additions.

The spring exhibition at the American Art Galleries, New York, in April, contained works contributed by ten American artists—oils, water colors, pastels, and black and whites. The artists were F. D. Millet, Win. M. Chase, H. R. Poore, R. C. Minor, C. M. Dewing, C. H. Eaton, F. K. M. Rehn, J. W. Champney, Frederick Remington, and Carleton Wiggins. The exhibition was made up partly of paintings lent by private owners and partly of new works by the artists. Each painter's work was shown separately.

The fourth annual exhibition of the Society of Pastel Painters was held at Wunderlich's Gallery, New York. Noteworthy among the contributions were William M. Chase's "Afternoon by the Sea," Walter Palmer's "Wheat and Poppies," Bolton Jones's "Spring" and "Afternoon," Theodore Robinson's "By the Seine," and Rosina Emmett Sherwood's "Portrait."

In November was exhibited at the International Art Gallery, New York, Franz von Lenbach's latest portrait of Bismarck, painted in the early part of the year at Friedrichsruh, and first shown in the Munich exhibition in April and

later in Berlin. The prince wears the white uniform of the Magdeburg Cuirassiers Regiment, with the broad yellow ribbon of the Order of the Black Eagle across his breast and the cuirassier's helmet on his head. The artist has concentrated his work on the head, which is masterly, the face being a three-quarter profile.

A special exhibition, beginning Dec. 11, was held at the American Art Galleries, New York, of the works of Alexander Harrison, William L. Dodge, and Charles Walter Stetson, the first two pupils of Gérôme, the last self taught. The collection comprised 234 numbers, of which 69 were contributed by Mr. Dodge, 93 by Mr. Harrison, and 72 by Mr. Stetson.

At the same time was exhibited Millet's "Angelus," preparatory to its return to France.

The first annual exhibition of the New York Water Color Club was opened Nov. 6, at the American Art Galleries, under the management of the American Art Association, comprised 413 numbers. The club, which has 53 members, has for president, Childre Hassam, and for vice-president, Rhoda Holmes Nicholls.

A large picture (94 x 15 feet) entitled "Vuelvan Cara!" the work of Arturo Michelena, has been presented by Venezuela to the city of New York as a memorial of the return to his native country of the body of General Paez. It represents the retreat of irregular horsemen before a body of regular cavalry. The leader of the former, wounded, is about to fall from his horse, and his soldiers turn to catch his last words.

The sale of the collection of the late S. L. M. Barlow, consisting of paintings, porcelains, and other *objets de vertu*, and his library, in New York in February, brought in the aggregate about \$140,000. Of the paintings, Van Dyck's "Children of Charles I" was bought by C. P. Huntington for \$8,500. He also was the purchaser of G. Flinck's "Head of a Nobleman," \$1,100; of P. Bonheur's "Bitch and Pups," \$675; of Constable's "Headwaters of the Lewiston River," \$430; and of A. Cuypp's "Landscape with Cattle," \$600. The Earl of Rosebery was the buyer of a portrait of Robert Burns, said to have been painted for Highland Mary.

At the sale of the Walter Bowne collection of 58 paintings, New York, March 5, one third brought more than \$1,000 each. Among the best prices were: Meissonier, "On the Lookout," \$3,500; Daubigny, "Time of Apple Blossoms," \$3,200; De Neuville, "The Vanguard," \$3,000; Diaz, "Early Autumn," \$2,450; Corot, "Road to the Sea," \$2,300; Millet, "The Seamstress," \$2,100; Troyon, "Strayed," \$1,950; Bonheur, "Monarch of the Herd," \$1,905; Decamps, "The Tempest," \$1,500; Hagborg, "Mussel Gatherer," \$1,500; Rousseau, "Farm Sunset," \$1,375.

At the sale of the Wynkoop collection, New York, March 13, 84 paintings brought in the aggregate \$64,200. Among the best prices obtained were: Barge, "Bashi-Bazouks," \$7,500; Van Marcke, "Cattle drinking," \$4,300; Gérôme, "At the Door of his House," \$3,600; Corot, "Near Ville d'Avray," \$3,000; Jules Dupré, "The Fisherman," \$1,200; Schreyer, "Arab Cavalry," \$2,200; Henner, "Juana," \$1,425; Diaz, "In the Woods," \$2,100; Knaus, "The Disgusted Model," \$2,150; George Inness, "Frosty Morning," \$1,250.

The Richard Butler collection, sold in New York, March 20 and 21, brought, with others, an aggregate of \$21,685. The highest price obtained was for Sanford R. Gifford's "San Giorgio, Venice," \$3,150. George Fuller's "Led through the Meadow" brought \$2,100, C. L. Muller's "First Quarter of the Honeymoon," \$1,150, and Gaul's "Holding the Line," \$730.

The memorial to Daguerre, unveiled in August in Washington, in the rotunda of the National Museum, is a bronze figure, 16 feet high, representing Fame, on bended knee, crowning the head of the inventor with a wreath of laurel. The sculptor is J. S. Hartley, of New York.

A bust of the late Alexander L. Holley, the work of J. Q. A. Ward, was unveiled in Washington Square, New York, Oct. 2. The pedestal was designed by Carrère and Hastings.

A statue of Horace Greeley, by J. Q. A. Ward, was erected in November in front of the "Tribune" office in New York. It is of bronze, seated, more than life-size, the right hand on the knee holding a copy of his paper.

FLORIDA, a Southern State, admitted to the Union, March 3, 1845; area, 58,680 square miles. The population, according to each decennial census since admission, was 87,445 in 1850; 140,424 in 1860; 187,748 in 1870; 269,493 in 1880; 391,422 in 1890. Capital, Tallahassee.

Government.—The following were the State officers during the year: Governor, Francis P. Fleming, Democrat; Secretary of State, John L. Crawford; Comptroller, William D. Barnes, who resigned in April to accept a circuit judgeship and was succeeded by ex-Gov. William D. Bloxham; Treasurer, Frank J. Pons; Attorney-General, William B. Lamar; Superintendent of Public Instruction, Albert J. Russell; Commissioner of Agriculture, Lucius B. Wombwell; Railroad Commissioners, George G. McWhorter, Enoch J. Vann, and William Himes; State Board of Health, Richard P. Daniel, William B. Henderson, William K. Hyer; Chief Justice of the Supreme Court, George P. Raney; Associate Justices, Augustus E. Maxwell and H. L. Mitchell.

Valuations.—The assessed valuation of property in the State for 1889 (two counties estimated) is as follows: Value of town and city lots, including improvements, \$21,833,756; value of other land and improvements, \$39,210,087; value of animals, \$5,242,256; value of other personal property, \$10,869,791; value of railroads, \$14,362,087; value of telegraph lines, \$173,418; total, \$91,691,355. Included in the assessment are 23,751,711 acres of land, 41,876 horses and mules, 482,764 neat cattle, 104,452 sheep and goats, and 181,922 swine. The tax assessed for State purposes in 1889 upon this valuation was as follows: General revenue, 44 mills, \$403,391.82; school tax, 1 mill, \$91,009.81; immigration tax, $\frac{1}{2}$ mill, \$10,987.80; total, \$565,389.43. A tax of $\frac{1}{2}$ mill for use of the Board of Health is not included. For 1890 the State tax rate is the same as in 1889, viz.: General revenue, 44 mills; schools, 1 mill; Board of Health, $\frac{1}{2}$ mill; immigration, $\frac{1}{2}$ mill; total, 64 mills.

Penitentiary.—On Aug. 1 there were 357 convicts in the State Penitentiary, of whom 344 were males and 13 females, 44 white and 313 colored. They are employed under lease in farming operations.

County Debts.—The total debt of Florida counties in 1890 was \$390,616, of which \$320,700 was a bonded debt and \$69,916 a floating debt. There has been a decrease of \$45,377 in the total county debt since 1880. Twenty-two of the forty-five counties in the State of Florida are without debt.

Population.—The official figures of the national census for the year are compared with similar figures for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Alachua.....	16,462	22,934	6,472
Baker.....	2,309	8,083	1,080
Bradford.....	6,112	7,516	1,404
Brevard.....	1,478	8,401	1,923
Calhoun.....	1,580	1,681	101
Citrus.....		2,894	2,894
Clay.....	2,883	5,154	2,816
Columbia.....	9,589	12,877	3,288
Dade.....	267	861	604
De Soto.....		4,944	4,944
Duval.....	19,481	26,800	7,369
Escambia.....	12,156	20,188	8,032
Franklin.....	1,791	8,308	1,517
Gadsden.....	12,169	11,894	* 275
Hamilton.....	6,799	8,507	1,717
Hernando.....	4,248	2,476	* 1,772
Hillsborough.....	5,814	14,941	9,127
Holmes.....	2,170	4,886	2,166
Jackson.....	14,372	17,544	3,172
Jefferson.....	16,065	15,757	* 308
La Fayette.....	2,441	3,656	1,245
Lake.....		8,084	8,084
Lee.....		4,414	4,414
Leon.....	19,662	17,752	* 1,910
Levy.....	5,767	6,586	819
Liberty.....	1,962	1,452	90
Madison.....	14,798	14,816	* 482
Manatee.....	3,544	2,895	* 699
Marion.....	13,046	30,766	7,750
Monroe.....	19,940	18,766	7,846
Nassau.....	6,685	8,294	1,659
Orange.....	6,618	12,384	5,966
Osceola.....		8,188	8,188
Pasco.....		4,249	4,249
Polk.....	8,181	7,905	4,734
Putnam.....	6,261	11,186	4,9 3
St. John's.....	4,335	8,719	4,177
Santa Rosa.....	6,645	7,961	1,816
Sevier.....	4,686	6,968	677
Swannoe.....	7,161	10,584	8,208
Taylor.....	2,279	2,122	* 157
Volusia.....	3,294	8,467	5,173
Wakulla.....	2,728	8,117	894
Walton.....	4,291	4,816	615
Washington.....	4,069	6,426	2,887
Total.....	269,493	801,422	121,929

* Decrease.

Phosphate Deposits.—There has been much excitement in the State during the year, especially in the counties bordering on the Gulf of Mexico, over the discovery and development of phosphate deposits. In March, 1887, Dr. J. Kost, the State geologist, announced, in his annual report, that he had discovered remarkably valuable phosphate beds in several counties. The existence of considerable deposits had long been known, but their value was first understood and published by Dr. Kost. Col. Scott, a wealthy fertilizer manufacturer of Atlanta, Ga., with a few northern capitalists, purchased a large tract of phosphate lands on Peace river in southern Florida, and began mining operations in 1888, shipping the rock to Atlanta. But the people were not aroused until, in the summer of 1889, it was announced that a syndicate of capitalists, now known as the Dunnellen Company, had bought up large tracts of rich phosphate lands

on Withlacoochee river in Citrus and Marion Counties, and would soon begin extensive mining operations. It was said that about 90,000 acres had been purchased by this company, and the announcement that it had paid from \$50 to \$100 an acre for thousands of acres that formerly sold at \$5 to \$10 created a whirlwind of excitement. Every one turned prospector, and reports of valuable discoveries came thick and fast. Scores of poor farmers had acquired a competence through their sales to the Dunnellen Company, and hundreds more were soon able to sell their acres at speculative prices. In Wakulla County, between Sopchoppy and Ocklockonee rivers, and in Jefferson County near Wacissa river, valuable beds have been found, and in nearly every county of the State deposits can now be shown. Phosphate companies have sprung up all over the State, there being six in Marion County alone. The Florida beds are often 30 feet thick, and it has been estimated that the phosphate can be taken out and put on the cars for fifty cents a ton. Analyses of the product of the beds in the Dunnellen district show an average of about 68 per cent. of bone phosphate of lime.

Political.—On Aug. 13 the Democratic State Convention met at Ocala, and nominated ex-Gov. William D. Bloxham for State Comptroller, and ex-Lieut.-Gov. Milton H. Mabry for Justice of the Supreme Court, the latter defeating Justice A. E. Maxwell. Members of the Farmers' Alliance formed a large portion of the convention, and were conspicuous in its proceedings. The platform is as much a declaration of alliance principles as of Democratic doctrine. It concludes with the following declarations:

That we urge our members in both branches of Congress to advocate all legislation tending to aid and encourage the agricultural and laboring interests of the country.

That in the revision of the present protective tariff the burdens now resting on the agricultural and laboring classes shall be reduced to a fair and equitable basis not to exceed the requirements of the government honestly and economically administered.

That we advocate the passage of laws that will effectually prevent the creation of trusts and combines, and prohibit speculation that seeks to interfere with prices of prime necessities and agricultural products.

That we persistently and continuously oppose the pernicious system of contracting the circulating medium of the country as now conducted by the National Government.

That the consideration of the Sub-Treasury bill in Congress indicates a desire upon the part of the whole people for an increase of a circulating medium, and that it is the duty of our members in Congress to secure the passage of some law that will give the requisite relief.

That we advocate the support of all measures for the reduction of county, State, and national taxation, asserting that all taxation should be based upon a uniform system of equalization, operative alike upon capital and labor, that all bear equally their just proportions of the burden, and that taxation should be levied for revenue only, and then only under a rigid system of economic and judicious administration of government.

On Aug. 14, at the same place, Congressman Robert Bullock was renominated for Congress in the Second District, and at Bartow on the same date Stephen R. Mallory was made the Democratic candidate for Congress in the First District.

On Aug. 28 the Republican State and Congressional Convention was held at Ocala. Its nominees were Leroy D. Ball for Comptroller, James R. Challen for Justice of the Supreme Court, and J. N. Stripling for Congressman in the Second District. For Congressman in the First District no nomination was made till late in September, when J. E. A. Davidson was selected. He soon declined the honor, and the district executive committee selected ex-Gov. Harrison Reed.

The election in November resulted in the success of the Democratic ticket by the usual large majority. The Democrats elected nearly all the members of the next State Legislature, a majority of whom are also members of the Farmers' Alliance.

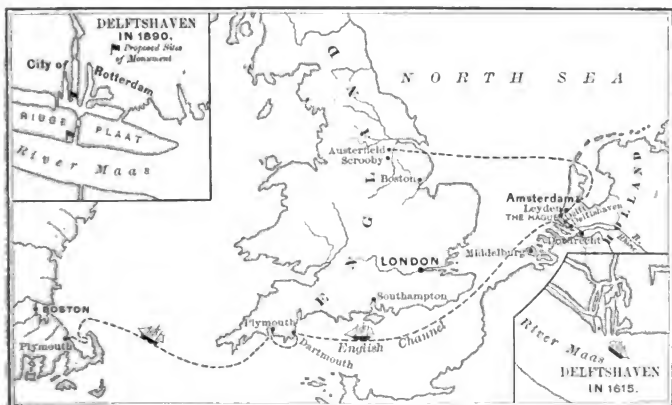
The constitutional amendments designed to change the date of the election for State officers from November to the first Tuesday after the first Monday in October, which were submitted to the people at this time, were adopted by a large affirmative vote.

FOREFATHERS' DAY. Dec. 21 is the anniversary of the landing of the Pilgrims, or first settlers, from the ship "Mayflower" at Plymouth, Mass. This event marked the beginning of New England. The Pilgrims, or "forefathers," were about one third of the English Separatist or Congregational Church at Leyden, Netherlands, Rev. John Robinson, pastor. In the latter half of the sixteenth century, in the region of northeastern England, where the three counties of York, Nottingham, and Lincoln come together, companies of worshipers according to the Congregational polity gathered. At Gainsborough, in Lincolnshire, a church was formed as early as 1602. When compelled by the rigid policy of uniformity inaugurated by Elizabeth and continued by James to choose between persecution and exile, one half of the congregation fled with their pastor, John Smyth, to Amsterdam, Holland. The western division of the Gainsborough congregation of worshipers, scattered as they were in places ten miles apart, formed in the summer of 1606 a church at Scrooby, in Nottinghamshire. In the manor house owned by the Archbishops of York, and leased by Sir Samuel Sandys, of London, William Brewster, the chief layman of the congregation, was post or relay agent of the Government, as Scrooby hamlet was on the highroad from London to York. William Bradford, another prominent layman, born in Austerfield, in Yorkshire, came weekly, on Sundays, with others also, and the congregation worshipped in the manor hall. Rev. John Robinson was their pastor. Compelled by advancing persecution to take refuge in the country in which they knew "there was liberty for all men," they left their homes, and after many troubles all reached Amsterdam by August, 1608. After ten months' residence there, they for various reasons made application to live in Leyden, and hither the congregation of one hundred persons came in May, 1609. Here these people, mostly agriculturists, began to work at trades and various avocations, being soon so well prospered as to be able to buy a lot and house worth about \$12,800 in present money. The church increased to three hundred communicants, and most of the men became citizens of Leyden, paying the poll tax and enjoying the

rights and privileges of citizenship. The time was eminently favorable for their political education, religious growth, and training as future builders of a commonwealth and beginners of a nation, for they lived at Leyden during the great truce of 1609-'21. Though enjoying toleration and the right to worship in their own way, in their own homes and their pastor's church house, they were not allowed the privilege of public propaganda. Desiring above all things to perpetuate that form of the Christian faith most dear to them, in which the autocracy of each separate congregation was the fundamental principle, they resolved to emigrate to America. War with Spain was to break out again in 1621, and the children must be educated not in the language of the free schools of Holland, but in English, and besides, the Dutch method of enjoying the Lord's Day was not that of the Puritans. Impelled chiefly by these motives, having obtained commercial aid from some English merchants, a minority of about one third, chiefly the younger and stronger portion of the congregation, prepared to go to America. On July 21, 1620, accompanied by nearly all who were to be left behind in Leyden, and by many fellow-believers from Amsterdam, the "Mayflower" company, in canal-boats, set out for Delftshaven. There, it is believed, Robinson's famous sermon was delivered, feasting and joyous singing were indulged in, and after farewells and salutes of artillery and small arms, the company of about 120 persons sailed down the Maas in the "Speedwell." This vessel, of sixty tons, was bound for Southampton, England, where the "Mayflower" was to join them. Their hope was to be comfortably settled in "Virginia" before frost. Sad at parting, "they knew that they were pilgrims." From Southampton both ships started in company, but the "Speedwell" being leaky, both vessels after eight days put in at Dartmouth, where after a week's delay they sailed together again. They had gone about three hundred miles from Land's End when the "Speedwell" being (falsely) reported as in danger of sinking, return was made to Plymouth. Here the discouraged were allowed to go ashore and stay, and the "Speedwell" was abandoned. On Sept. 16 the "Mayflower" sailed alone, Nov. 19 sighted Cape Cod, and Nov. 21 cast anchor in the harbor (at Provincetown). After several boat expeditions, a party began the exploration of the bay Dec. 16, landing on Clark's Island Dec. 18. On Monday, Dec. 21, they "marched also into the land, and found divers corn fields and little running brooks, a place very good for situation." The issue of the long controversies as to the place and date intimated in the above extract from Mourt's "Relation" is that on Dec. 11, (old style), 1620, or by the Gregorian calendar (new style), Dec. 21, the Pilgrims stepped ashore on the well-rolled and singularly erratic boulder—since no other rock appears above the surface of soil or water in Plymouth Township—and on the ancient maize lands of the Algonquins began their settlement and New England. In carrying out their social and political organization, they forsook the semi-feudal principles of the manor-house system, state church, and monarchy of England, and reverted to the more primitive Teutonic system in vogue before even the foundation of

the primitive Christian Church. (See Dr. Herbert Adams's "Germanic Origin of New England Towns.") The "Mayflower" company consisted of 102 persons, 73 males and 29 females. Of the 34 adult males who formed the responsible body, and of whom more than half were from Leyden, 18 had wives, and 14 had children under age, of whom 20 were boys and 8 girls. There were also 3 maid servants and 19 men servants, sailors, and artisans. To the compact made before landing 41 signatures were added. Of the company the names of but five have thus far been certainly found in written records in England. After the first winter of afflictions the colony grew by continued accessions. When in October, 1691, Plymouth, or the "Old Colony," lost its separate existence, and was merged in Massa-

students then sang an appropriate song. At sunset a cannon was fired and the flag hauled down. In the evening, the president, sitting in William Bradford's chair, read twelve toasts, which were followed by speeches, reminiscences, and conversation, until 11 o'clock, when a cannon was fired, and the club and company withdrew. In 1770 a formal address was delivered, but in 1773 the club disbanded on account of opinions being at variance on topics arising out of Great Britain's treatment of the colonies. The town of Plymouth then voted to keep up the celebration, which was done usually in church with a sermon. Exercises were suspended from 1780 to 1794, but resumed with tolerable regularity until 1819 when the Pilgrim Society was formed, before whom such orators as Webster, Everett, Choate, Win-



MAP SHOWING THE THREE HOMES OF THE PILGRIMS.

chusetts, but two of the original passengers in the "Mayflower" survived. The day of the landing, often remembered and celebrated privately, and referred to in church worship, was not publicly and formally commemorated until 1769. By an unfortunate error made in changing the date from old to new style, Dec. 22 was fixed as the day, and still in many quarters holds its own by force of tradition. On Dec. 18, 1769, seven gentlemen at Plymouth, Mass., formed "The Old Colony Club" to celebrate "the landing of our worthy ancestors in this place." After the firing of a cannon and the hoisting over their hall of a silk flag inscribed "Old Colony, 1620," they met at 11 A. M. and dined at Howland's inn at 2.30 P. M. on local dishes "dressed in the plainest manner (all appearance of luxury and extravagance being avoided in imitation of our ancestors, whose memory we shall ever respect)." Returning to their hall, a company of descendants of the first settlers greeted them with a volley of small arms and cheers, which latter were returned. A company of grammar-school

thorp, and Storrs have delivered orations. On Aug. 1, 1853, the anniversary of the embarkation of the Pilgrims from Delftshaven was celebrated, and the proposal formally presented of erecting at Plymouth, Mass., the superb granite monument which was dedicated with imposing ceremonies in the summer of 1889. The public observance of Forefathers' Day outside of New England may be said to have begun when the New England Society of the City of New York was formed, May 6, 1805, "to commemorate the landing of the Pilgrim Fathers on Plymouth Rock; to promote friendship, charity, and mutual assistance; and for literary purposes." This society, incorporated April 15, 1833, now numbers over 1,500 members, representing vast wealth, intellect, and social power. Its annual gatherings on Forefathers' Night (Dec. 22), are among the most brilliant of any in the metropolis, the chief orators from all parts of the country being summoned to do honor to the Pilgrims or to furnish wit for the occasion. Other New England Societies in Brooklyn, Phila-

delphia, Chicago, Charleston, S. C., Minneapolis, Minn., Orange, N. J., and in various other States, are helping to give the day a recognition that may become national. From the formation in 1869, of the Boston Congregational Club, the parent of the forty others now in existence from Portland to Tacoma, may be dated the more popular observance of the day, which is now commemorated by churches and organizations of New England origin and of many denominations throughout the United States. The general methods of commemoration do not vary widely from those of 1769, consisting mainly of refreshments and oratory. It is noticeable that the descendants of other early immigrants are following the example of the New Englanders. On Oct. 6, 1890, the Germans and people of Teutonic extraction celebrated in many of the cities of the United States, with music, speeches, banquets, athletic tournaments, torchlight processions, etc., the 207th anniversary of the landing of the first German colony (led by Pastorius, of Germantown, Pa., the "Pennsylvania Pilgrim" of Whittier's poem) on the shores of America. Now that one end of the voyage of the Pilgrims has been appropriately marked at Plymouth, Mass., it is proposed to erect at Delftshaven, in Holland, a memorial commemorating the twelve years' stay of the Pilgrims and the hospitality of the Dutch Republic to them. The suggestion, first made in a New York journal, has been followed up by the Hon. Samuel R. Thayer, minister of the United States at the Hague. Having made examination of the historic site at Delftshaven, which is now municipally a part of the city of Rotterdam, he forwarded dispatches and maps to the State Department which show the feasibility of the plan. The Dutch Government, besides sending an engineer to inspect and report the sites, has expressed its willingness to allow land for the purpose whenever the movement assumes proper shape. The Boston Congregational Club, at its meeting on Feb. 24, 1890, passed the following resolutions:

Whereas, Remembering the hospitality of the free republic of Holland so generously bestowed upon the Pilgrims, who, after twelve years' residence in Amsterdam and Leyden, sailed from Delftshaven on a voyage which was completed at Plymouth Rock, it is fitting that we, members of Congregational Clubs throughout the United States, should unite in grateful recognition of Dutch hospitality, and at Delftshaven raise some durable token of our appreciation of both hosts and guests, calling upon all Americans who honor alike the principles and the founders of the two republics to join in the enterprise. Therefore, be it

Resolved, That the club heartily approves of the erection of such a commemorative monument, and that the Rev. William Elliot Griffiths, D.D., Mr. Hamilton A. Hill, Mr. William O. Grover,* the Rev. Arthur Little, D.D., and Mr. Thomas Weston, be a committee in behalf of this club to act with full power in conjunction with committees of other Congregational Clubs, and of any other appropriate organizations, to obtain the necessary funds, and to secure the erection of such a memorial.

The spot proposed to be marked is that where the canal from Leyden through the city of Delft—the path of the Pilgrims' inland voyaging—enters the river Maas, at Delftshaven, or port of

Delft, where the "Speedwell" lay. At this point of land John Robinson stood, and the touching farewells were taken, so that "sundry of y^e Dutch strangers y^e stood on y^e key as spectators could not refrain from tears." "The spot," says Minister Thayer, who inspected the ground in August, 1889, "is eminently favorable for a memorial. The river, with a broad sweep, bends round in such a way to either side of it that it can be seen from a great distance, both to the east and west, while hundreds of vessels of every size and description are constantly passing in going or coming from every part of the globe. I ascertained that all the territory immediately adjoining the harbor was public land belonging to the city of Rotterdam, to which corporation Delftshaven has been annexed. I also perceived that a fine sea-wall of brick and blocks of basalt was being constructed, and would soon thoroughly fortify the point in question against the encroachments of the powerful tides which here prevail, as well as the occasional floods." It is not proposed to erect so imposing, certainly not so costly, a monument as that at Plymouth, Mass.; but \$25,000 are desired to erect the tower, or statue of heroic size, and subscriptions have already begun, the first thousand being quickly subscribed in the Boston Club. Most of the Congregational Clubs have taken favorable action, and some have chosen permanent committees. The Boston Congregational Club consists of 500 ministers and laymen resident in or near Boston.

FRANCE, a republic in western Europe, proclaimed on Sept. 4, 1870, when the imperial government of Napoleon III was overthrown. The Constitution, first adopted on June 16, 1875, and partially revised in June, 1879, August, 1884, June, 1885, and July, 1889, vests the legislative power in two chambers and the executive power in the President of the Republic and the ministers, who are responsible individually or collectively to the Chamber of Deputies. The President is elected for seven years by an absolute majority of the Senate and Chamber united in Congress. He has power to make treaties, but can not declare war without obtaining the consent of both legislative houses. All his acts must be countersigned by a minister. The Senate is composed of 300 members elected indirectly for nine years. The Chamber of Deputies consists of 584 members, elected for four years by universal direct suffrage, one in each arrondissement. If an arrondissement contains more than 100,000 inhabitants it is divided into two districts. Except financial laws, which must originate in the Chamber, legislation may be initiated by either house. All bills, whether presented by the ministry, by the President through the ministry, or by individual members, must be first examined and reported by the appropriate committee or bureau either of the Senate or of the Chamber.

The President of the republic is Marie-François Sadi Carnot, born in 1837, who was elected after the resignation of Jules Grévy, on Dec. 3, 1887. The ministry at the beginning of 1890 was composed as follows: President of the Council and Minister of Commerce, Industry, and the Colonies, P. Tirard; Minister of Foreign Affairs, E. Spuller; Minister of Finance, M. Rou-

* Mr. Grover being unable to serve, Mr. Frank Wood was appointed, March 27, in his place.

vier; Minister of War, C. de Freycinet; Minister of Marine, Admiral Krantz; Minister of Public Instruction, A. Fallières; Minister of Public Works, Ives Guyot; Minister of Agriculture, M. Faye; Minister of the Interior, M. Constans.

Area and Population.—The area of France is 528,572 square kilometres, or 204,177 square miles. The population between Dec. 18, 1881, and May 30, 1886, increased from 37,672,048 to 38,218,903. The density per square mile is 187. There were 1,126,531 foreigners residing in France in 1886, forming 2.97 per cent. of the total population. Of these 482,261 were Belgians, 264,568 Italians, 100,114 Germans, 79,550 Spaniards, 78,584 Swiss, 37,149 Dutch, 36,134 English, 12,090 Austrians and Hungarians, 11,980 Russians, 10,253 Americans, and 62,977 from other countries. There were, moreover, 103,886 naturalized foreigners. The number of marriages in 1888 was 276,848; of births, 924,709; of deaths, 879,937; excess of births over deaths, 44,772, against 56,536 in 1887, 52,616 in 1886, 87,661 in 1885, and 78,974 in 1884. In 43 of the 87 departments, notwithstanding the low average death rate, which was 21.9 per *mille*, the deaths exceeded the births, and in all the rest, except the Nord, Pas-de-Calais, and the Bréton districts, the population is almost stationary. Foreigners contributed about one quarter of the whole increase. The reports for 1889 record 272,000 marriages, 4,678 divorces, 880,000 births, and 794,000 deaths. The death rate was lower than in any year since 1874: the marriage rate, 7.1 per *mille*, was the lowest ever reported. According to the census of 1886, the population is divided between the country and the towns in the proportion of 64.05 and 35.95 per cent. Of 308,245 young men examined in 1888 for conscription in the army, 10.08 per cent. could not read nor write. Education is compulsory and free, and nearly all the children are now found in the schools, which had 6,267,589 pupils in 1887, exclusive of 99,799 in the secondary schools. The secular clergy of the Roman Catholic Church numbered 50,437 in 1886, not counting 10,546 in ecclesiastical seminaries. There were 687 Protestant pastors and 56 Jewish rabbis.

Commerce and Production.—The amount of the general commerce with foreign countries and the colonies, which embraces all merchandise entering and leaving France, including re-exports, was 5,187,000,000 francs of imports and 4,298,000,000 francs of exports in 1888. The special imports, confined to those intended for domestic consumption, were valued at 4,107,000,000 francs, and the special exports, consisting of domestic products only, at 3,246,000,000 francs. The special imports of food products were 1,507,000,000 and the exports 727,000,000 francs; the imports of raw materials were 2,028,000,000 and the exports 813,000,000 francs; the imports of manufactured articles were 579,000,000 and the exports 1,707,000,000 francs. The wine imports, which were 518,000,000 francs in 1886, went back to 438,000,000 francs. Fruits receded from 128,000,000 to 64,900,000 francs. The imports of cereals were 375,000,000 francs, against 289,000,000 in 1887 and 262,000,000 in 1886. The raw-wool imports were 329,000,000 francs, 3,000,000 francs more than in 1887, but

58,000,000 francs less than two years before. Raw silk showed a decline in the two years of 99,000,000 francs, the value in 1888 being 192,000,000 francs. The cotton imports were 158,000,000 francs, the smallest amount in five years and 45,000,000 less than in the year previous. The value of timber and wood was 166,000,000 francs; of hides and furs, 135,000,000 francs; of oil seeds, 146,000,000 francs; of coffee, 131,000,000 francs; about the same as in 1887; of coal, 143,000,000 francs, being more than in any year since 1885; of cattle, 78,000,000 francs, the same as in 1887, but only half as much as in 1884; of sugar, 78,000,000 francs, an advance of 27,000,000 francs over the imports of 1887; of woolen goods, 65,000,000 francs; of silks, 65,000,000 francs; of cotton textiles, 50,000,000 francs; of flax, 69,000,000 francs. Among the exports, woolen manufactures figure for 323,000,000 francs, against 350,000,000 in 1887 and 376,000,000 in 1886; silk manufactures for 223,000,000 francs, against 210,000 in 1887 and 242,000,000 in 1886; and cotton manufactures for 106,000,000 francs, against 118,000,000 francs in 1887 and 107,000,000 francs in 1883. The exports of wine amounted to 242,000,000 francs, an increase of 8,000,000 francs in the preceding year, but less by 14,000,000 francs than in 1885 and by 18,000,000 francs than in 1886. Raw silk and yarn are represented by 117,000,000 francs, a decline in one year of 24,000,000 francs; raw wool and yarn by 131,000,000 francs, an increase of 11,000,000 francs. Articles under the head of small wares were valued at 129,000,000 francs; leather goods, 135,000,000 francs; leather, 92,000,000 francs; linen manufactures, 87,000,000 francs; metal wares and tools, 71,000,000 francs. Taking these miscellaneous manufactures together, their sum varied little for three or four years. The exports of butter and cheese were valued at 91,000,000 francs; spirits, 65,000,000 francs; refined sugar, 48,000,000 francs, a decline of 9,000,000 francs; skins and furs, 63,000,000 francs; chemicals, 46,000,000 francs.

The imports from Great Britain of articles destined for home consumption in 1888 were of the value of 520,000,000 francs, against 476,000,000 francs in 1887; the exports of French produce to Great Britain were of the value of 864,000,000 francs, against 820,000,000 francs in the preceding year. From Belgium the special imports were 419,000,000 francs, compared with 414,000,000 francs; and the exports of French goods to Belgium were 472,000,000 francs, as compared with 481,000,000 francs. Spain figured for 378,000,000 francs of imports against 357,000,000 francs in 1887, and for 172,000,000 francs of exports, against 149,000,000 francs in 1887. The imports from the United States increased from 272,000,000 francs in 1885 to 293,000,000 francs in 1886 and 325,000,000 francs in 1887, and then fell off to 248,000,000 francs in 1888, while the exports to the United States, which sprang from 254,000,000 francs in 1885 to 282,000,000 francs in 1886, began then to decline to 271,000,000 francs in 1887, and in 1888 fell to 256,000,000 francs. The imports from Germany showed an increase of 11,000,000 francs from 322,000,000 francs in 1887, the amount to which they had fallen from 374,000,000 francs in 1885, yet on the export side there was a decrease of

8,000,000 francs, as compared with the previous year, only 308,000,000 francs of French produce going to that country in 1888. The trade with Italy showed the effect of the tariff war, the imports of Italian goods falling from 308,000,000 francs in 1887 to 181,000,000 francs in 1888 and the exports to Italy from 192,000,000 francs to 119,000,000 francs. The imports from British India were 188,000,000 francs; from Russia, 248,000,000 francs, showing an increase of 70,000,000 francs, due to the demand for wheat. The imports from the Argentine Republic increased from 182,000,000 to 189,000,000 francs, while the exports to that country fell away from 144,000,000 to 134,000,000 francs. Algeria profited by the cessation of commercial exchanges with Italy, the imports into France from her colony advancing from 133,000,000 francs in 1887 to 158,000,000 francs in 1888, and the stimulus given to production in Algeria caused the exports of France to the colony, which had receded from 189,000,000 francs in 1886 to 153,000,000 francs in 1887, to advance in 1888 to 176,000,000 francs.

The transit trade in 1888 amounted to 549,500,000 francs. Of the total general trade of 1888, amounting to 9,485,000,000 francs, 1,752,000,000 francs passed through the port of Marseilles, 1,680,100,000 francs through Havre, 782,100,000 francs through Bordeaux, 665,900,000 francs through Paris, 462,800,000 francs through Dunkerque, less than 400,000,000 francs through Boulogne, Rouen, and Cete, and less than 200,000,000 francs through Dieppe, Calais, Tourcoing and Belfort.

The total value of the special imports in 1889 was 4,175,015,000 francs. In this sum food products are represented by 1,407,279,000 francs, raw materials by 2,060,185,000 francs, manufactured goods by 574,905,000 francs, and other products by 132,646,000 francs. The special exports amounted to the total of 3,608,582,000 francs, in which food stuffs figure for 816,758,000 francs, raw products for 784,927,000 francs, manufactures for 1,793,522,000 francs, and all other articles for 213,375,000 francs. The imports of cereals were 372,796,000 francs in value; exports, 20,686,000 francs; imports of wines, 387,214,000 francs; exports, 251,054,000 francs. The importation of textile materials tends to increase. The imports of raw cotton in 1889 amounted to 186,568,000 francs; the imports of raw silk were 269,717,000 francs. In flax, hemp, and jute there was a falling off. The imports of raw wool increased to 378,110,000 francs, which was partly counterbalanced by the increased exports, amounting to 154,263,000 francs. The imports of woollen yarns were 11,902,000 francs; of woollen fabrics, 63,586,000 francs; the exports of yarns, 50,871,000 francs of manufactured woollens, 335,686,000 francs. The raw silk imports were 269,717,000 francs. The total value of the textile exports in 1889 was 776,790,000 francs, against 714,547,000 francs in 1888. The export of silk fabrics was 247,880,000 francs in value; of cotton fabrics, 113,905,000 francs; of flax fabrics, 9,398,000 francs; of jute fabrics, 4,736,000 francs; of cotton thread, 3,074,000 francs; of linen thread, 11,240,000 francs.

The total annual product of French industries is estimated at 12,800,000,000 francs. There were in 1886 1,926 woollen mills, with 3,283,580 spindles,

45,951 power looms, and 28,446 hand looms employing 115,024 operatives and 42,849 horse-powers. The cotton mills numbered 1,000, running 5,124,140 spindles, 72,248 power looms, and 30,039 hand looms, with 62,381 horse-powers and 119,269 employes. In the silk manufacture 1,356 establishments were engaged, the number of mills being 1,172, operating with 1,084,000 spindles, 50,500 power looms, and 55,500 hand looms, and giving employment to 110,000 persons. There were 365 establishments engaged in the manufacture of flax, jute, and hemp. Flax and hemp used to be cultivated much more extensively than they are now, when only about 700,000 quintals are produced annually, while 1,700,000 quintals are imported, and in addition 400,000 quintals of jute. The production of silk is again on the increase, 9,549,906 kilogrammes of cocoons having been reeled in 1888. The export of silk fabrics in 1888 was 178,000,000 francs more than the import. The net exports of woollen cloth and yarns were 288,000,000 francs in value, the net exports of cotton cloth were 61,000,000 francs, while of yarn there was a net import of 23,000,000 francs. There were 375 sugar works and 24 refineries in 1887-'88, employing 54,100 people. The product for the crop year was 400,000 tons of raw sugar, 106,000 tons less than in 1886-'87, which was the year of greatest production. The coal output in 1889 was 24,588,880 tons, showing a progressive increase. The product of pig iron in 1888 was 1,688,976 tons; of finished iron, 833,839 tons; of steel, in 1887, 525,646 tons.

Trade and production improved under the impetus given by the Universal Exposition and the abundant harvests of 1889. The area sowed to wheat in 1889 was 17,000,000 acres, being larger than in any year since 1885, and the crop was 38,000,000 quarters, against 33,500,000 quarters in 1888. The rye crop was larger by 9,000,000 quarters. The production of beet root and sugar likewise increased in a remarkable degree. The wine crop was an exception to the general prosperity. The total vintage was 511,150,819 gallons, against 602,246,200 gallons in 1888. Phylloxera invaded three new departments, Aube, Sarthe, and Haute Marne. Mildew and black rot were also destructive. In some districts rain, in others drought, in still others early frosts, diminished the yield. In Champagne and Burgundy the production was moderately good. The quality was generally excellent. The vineyards ravaged by phylloxera are rapidly being replanted with American vines. There were 22,004 acres thus planted in 1881, and the area increased to 273,770 acres in 1886, 409,015 in 1887, 530,739 in 1888, and 740,849 in 1889, a rate of progression that in four years would give France a greater area of vineyards than she ever before possessed. The vine in 1889 covered 4,524,000 acres. The importation of wine into France is equal on the average to about half of the native product, and is five times as great as the exportation. The chief source of supply is Spain, as Spanish wines blend best with the red wines of the Gironde. The importation from Spain in 1889 was 151,525,974 gallons; from Algeria, 34,792,782 gallons; from Italy, 2,233,533 gallons, having fallen by reason of the prohibitive duties from 24,450,009 gallons in 1888; from Portugal, 18,757,054

gallons; from other countries, 17,191,725 gallons; total imports, 224,511,068 gallons. Algerian production has been encouraged for the purpose of supplying the place of Italian wines. Notwithstanding the partial failure of the native crop, the imports in 1889 were 36,000,000 gallons less than in 1888, and at the same time the production of artificial wine from raisins fell from 103,246,000 to 72,710,000 gallons. Cider production diminished in a greater ratio than wine, and the deficiency in the quantity of these customary drinks was made up by a larger consumption of beer and brandy. The supply of genuine wine for the year, taking imports and home production together, was 735,661,887 gallons, while the total exports were only 47,116,533 gallons, or little more than 6 per cent. The bulk of the exports consists of Medoc or Bordeaux claret, of which the Argentine Republic received 8,488,156 gallons in 1889; Germany, 4,168,178 gallons; England, 4,151,755 gallons; United States, 1,761,328 gallons; Netherlands, 1,555,693 gallons; Belgium, 1,437,319 gallons; other countries, 4,403,100 gallons; total, 25,966,529 gallons. The product of the Medoc district was 47,288,837 gallons in 1889 and 58,690,435 gallons in 1888. As prepared for the market and for export in Bordeaux the Medoc contains a large proportion, probably two thirds of its bulk, of Spanish wine. The best qualities of Medoc go to the United States, and this country is the largest consumer of burgundy, champagne, and other fine French wines. The shipments of other sorts besides Bordeaux to the United States in 1889 were 5,127,428, and in 1888 were 5,468,767 gallons, which is 2,000,000 gallons more than goes to any other country.

Great numbers of the French people are directly interested in the chief financial institutions as well as in the Government funds, and after the collapse of the Panama Canal Company and the implication of the Comptoir d'Escompte in the speculations of the copper syndicate public confidence in their management is easily shaken. Therefore much anxiety was felt when M. Levêque, a Deputy, resigned from the Directory of the Crédit Foncier, the largest credit institution in France after the Bank of France and the Crédit Lyonnais, accusing M. Albert Christophle, who has been its manager for thirteen years, of making imprudent and unauthorized advances, and of wasting large sums in subsidizing newspapers and other unnecessary expenses connected with the issue of loans. The new financial scandal came shortly after the condemnation of M. Secrétan, manager of the Société des Métaux and of the Comptoir d'Escompte, for issuing fictitious dividends. M. Christophle answered with figures that proved the financial soundness of his institution to be beyond question. With a capital of 875,000,000 francs, it raises money on bonds to be loaned to land owners on first-mortgage bonds or to communes and departments, the amount of its loans being 3,100,000,000 francs. The Government decided to investigate the affairs of the concern, the results of which showed that the statutory limitations had not been observed and that some money had been lost in risky and illegitimate ventures. M. Christophle was therefore, in June, 1890, dismissed from the governorship, although

under his management the business of the Crédit Foncier has increased threefold and the dividends have quintupled. He was succeeded by M. Tirard, the ex-Premier.

Navigation.—The total number of vessels entered at French ports in 1888 was 98,131, the total tonnage 19,128,599. Of these, 22,385, of 8,712,736 tons, were foreign vessels and 75,746, of 10,415,863 tons, were French; and of the latter 8,696, of 4,770,858 tons, were engaged in ocean commerce and 67,050, of 5,645,005 tons, in the coasting trade. Of the foreign vessels, 20,186, of 8,291,909 tons, arrived with cargoes and 2,199, of 420,827 tons, in ballast, and of the French vessels in the foreign trade, 8,147, of 4,674,209 tons, brought cargoes and 549, of 96,649 tons, were in ballast. In 1888 there were entered altogether 99,938 vessels, of 20,133,838 tons, of which 83,859, of 18,663,866 tons, were with cargoes and 16,079, of 1,469,972 tons, were in ballast. The French vessels in the foreign trade numbered 8,786, of 4,880,495 tons, of which 8,302, of 4,788,039 tons, came with cargoes and 484, of 92,456 tons, without. The French coasting vessels numbered 69,152, having an aggregate tonnage of 6,101,271. The number of vessels under foreign flags was 22,000, of 7,152,072 tons, of which 19,874, of 8,749,695 tons, were laden and 2,126, of 402,377 tons, were empty. The total number of vessels cleared in 1888 was 101,061, of 20,560,369 tons, as compared with 99,954, of 19,924,968 tons in 1887. The French vessels in the foreign trade numbered 9,935, of 5,281,024 tons in 1887, and 9,434, of 5,156,165 tons, in 1888. Of the latter 7,578, of 4,495,223 tons, sailed with cargoes. The French vessels in the coasting trade were 67,050 in number, their tonnage 5,645,005, in 1887 and 69,152, the tonnage 6,101,271, in 1888. Of the foreign vessels cleared in 1888, numbering 22,475, of 9,302,933 tons, the number carrying cargoes was 13,741, of 4,850,002 tons, and the number sailing in ballast was 8,734, of 4,443,931 tons. In 1887 the number of foreign ships cleared was 22,969, of 8,998,939 tons, of which 14,713, of 4,919,745 tons, were cleared with cargoes and 8,256, of 4,079,194 tons, in ballast.

The merchant marine of France in the beginning of 1889 numbered 14,263 sailing vessels, of 451,272 tons, with 70,318 sailors in their crews, and 1,015 steamers, of 509,801 tons employing 13,181 men. Of the total number of vessels 12,803 were under 50 tons. The number of sailing vessels engaged in European commerce was 328, of 39,891 tons; the number of steamers was 232, of 166,699 tons. There were employed in ocean commerce 428 sailing vessels, of 158,280 tons, and 189 steamers, of 309,123 tons. Of 3,629,000 francs of imports brought by sea in 1888, French vessels carried 1,396,000,000 francs and foreign vessels 2,233,000,000 francs; of 2,955,000,000 francs of exports, 1,636,000,000 francs were carried in French and 1,319,000,000 francs in foreign ships. The increase in the number of steamers from 599, of 255,959 tons, in 1879 is attributed in a large measure to the law giving bounties for the construction and navigation of vessels amounting to about 10,000,000 francs a year. Ship owners have hitherto bought many vessels in Great Britain, where they are built more cheaply and with greater rapidity than in French yards, although by doing so they lost

half the navigation bounty. To counteract this in the new law continuing the bounties from Jan. 1, 1891, they are granted only to vessels built in France.

Railroads.—The total length of French railroads in the middle of 1889 was 32,944 kilometres. The state owns 2,468 kilometres. The business of the railroads was greatly augmented in 1889 by the Universal Exposition. The gross receipts of all the lines were 1,109,300,000 francs against 1,049,500,000 francs in 1888 and 1,046,000,000 francs in 1887. In the latter year the expenses were 540,400,000 francs, leaving a net income of 505,600,000 francs. The number of passengers was 218,400,000; the number of tons of freight was 78,100,000, having declined from 89,100,000 tons in 1883.

The Post-Office.—The number of post-offices in the beginning of 1889 was 6,932, or one for every 5,500 of the population. The post-office in 1887 handled 653,200,000 ordinary letters, of which 544,100,000 were domestic and 109,100,000 foreign; 18,800,000 registered letters, 16,100,000 domestic and 2,700,000 foreign; 41,300,000 postal cards, 36,400,000 domestic and 4,900,000 foreign; 401,500,000 newspapers, 340,400,000 domestic and 61,400,000 foreign; 30,800,000 samples, 24,400,000 domestic and 6,400,000 foreign; 377,200,000 circulars and manuscripts, 355,200,000 domestic and 22,000,000 foreign; and 22,600,000 money orders, of the total value of 705,300,000 francs, of which 21,200,000, representing 629,700,000 francs, were national and 1,400,000, for the amount of 75,600,000 francs, were international, exclusive of 7,500,000 francs transferred by foreign postal orders.

Telegraphs.—The length of the telegraph lines on Jan. 1, 1889, was 88,047 kilometres, with 276,527 kilometres of wires. In Paris there are 237 kilometres of pneumatic tubes in operation. The number of telegrams in 1887 was 22,341,000, inclusive of 3,177,500 cards and letters dispatched through these tubes.

Finances.—About 62 per cent. of the State revenue is derived from indirect taxes; 20 per cent. from the tobacco and gunpowder monopolies, the post-office, and telegraphs; 15 per cent. from direct taxes; the remaining 3 per cent. from state lands, railroads, and other sources. The budget for 1890 makes the total receipts 3,046,417,120 francs, including 766,945 francs of special resources and 60,486,969 francs of appendices *pour ordre*, consisting of duplicate entries transferred between different accounts. Omitting these, the ordinary revenue was estimated at 2,985,163,206 francs, of which 448,411,000 francs come from the direct contributions, 1,874,789,300 from indirect taxes, 591,842,362 francs from state monopolies, 42,706,350 francs from domains and forests, and 27,414,194 francs from various sources. The land tax produces 118,548,000 francs; tax on buildings, 63,450,000 francs; personal capitation and property tax, 75,055,500 francs; door and window tax, 49,272,900 francs; trade licenses, 104,150,400 francs; carriage tax and other special taxes, 29,154,500 francs; direct taxes in Algeria, 8,779,700 francs. Of the indirect taxes, the registration fees amount to 509,104,300 francs; stamps, 159,797,400 francs; customs duties, 373,985,500 francs; excise and other indirect taxes, 582,594,500 francs; personal

property tax, 50,424,000 francs; sugar duty, 178,700,000 francs; indirect taxes in Algeria, 20,183,600 francs. The total expenditure was estimated at 3,769,647,803 francs, including 154,073,000 francs of extraordinary expenditure, 475,672,106 francs of treasury and other special votes, and 93,881,833 francs of special state expenses. The total ordinary expenditure amounts to 3,046,020,874 francs, divided as follow: Public debt, 1,318,284,408 francs; President, Chamber, and Senate, 13,044,048 francs; justice, 37,468,450 francs; religion, 45,085,503 francs; foreign affairs, 14,168,500 francs; Ministry of the Interior, 60,873,310 francs for France and 7,282,635 francs for Algeria; finance, 19,577,370 francs; posts and telegraphs, 1,906,000 francs; Ministry of War, 556,333,550 francs; Ministry of Marine, 203,148,225 francs; colonies, 52,298,716 francs; public instruction, 139,984,038 francs; fine arts, 12,063,905 francs; commerce and industry, 20,534,483 francs; agriculture, 20,539,483 francs; public works, 20,737,830 francs of ordinary and 113,168,384 francs of extraordinary expenditure; expenses of collecting taxes, 329,893,085 francs; repayments, etc., 22,666,500 francs. For the twelve years ending with 1887 the total ordinary receipts amounted to 35,337,510,651 and the extraordinary receipts to 5,458,673,935 francs. The aggregate sum actually received into the treasury during that period, eliminating 406,691,780 francs borrowed from preceding budgets, was 40,389,492,806 francs, and the actual disbursements were 40,671,646,433 francs. In 1889 there was a great falling off in registration fees, the movable property tax, customs, and sugar, four of the main sources of revenue; yet this was made good by the augmented receipts from tobacco, excise, railroad travel, telegraphs, and postage stamps incidental to the Paris Exposition.

In framing the budget for 1891 M. Rouvier strove to devise a uniform type and to give it a character of stability by a process that he called unification. The extraordinary military expenditures that had been considered transitory it was necessary, owing to the increase of the army, to treat as permanent, and therefore he merged the extraordinary in the ordinary budget. The short loans that former ministers have expected to redeem with surplus receipts he proposed to convert into a perpetual 3 per cent. *rente*. New sources of revenue must be found, and yet the promised relief given to the land owners by a reduction of the land tax. This he proposed to accomplish by introducing the uniform rate of 3.97 per cent. of the net annual value of all kinds of real estate, the land tax having been heretofore 4.6 per cent. in some departments and more in others and the building tax 3.03 per cent. This would produce an increased revenue of 17,000,000 francs, and the agricultural classes were expected, in return for the relief thus given and for protective duties, to submit to a higher tax on sugar, for which a pretext was found in the unreliable statements of refiners, the abolition of the privilege of distilling liquor for private use, and other new taxes. The reduction of the land tax was not sufficient to satisfy the powerful agricultural interests. The budget committee cut down the ministers' estimates of expenditure to 3,162,000,000 francs by saving on extraordinary military expenditure, suppressing the in-

significant amortization fund that would extinguish the debt in seven thousand years, and lowering the rate of interest in the Government savings bank. Still there remained, after applying 26,400,000 francs remaining from former loans to the military budget, a deficit of 60,000,000 francs, and to avoid this required a surtax on sugar, duty on petroleum, higher taxes on certificates and personal property, and a new increase in spirit duty. The committee would not agree to a higher direct tax on houses than 3·20 per cent. In the autumn M. Rouvier proposed to the budget committee a stamp duty on proprietary medicines and cosmetics that was calculated to yield 12,000,000 francs. He estimated then that the accounts of 1889 would show a surplus of 12,000,000 francs, that the budget of 1890 would end with a surplus of 50,000,000 francs, and that in 1891 a surplus of 4,000,000 francs would be available for supplementary credits. The emission of the new loan of 700,000,000 francs for the consolidation of short-term obligations was delayed, but not abandoned. The holders of the 250,000,000 or 300,000,000 francs of six-year obligations were to have the priority. The extraordinary expenditure of 160,000,000 francs on railroads was not included in the budget because it is raised by bonds, although the bonds are guaranteed by the state and there is no expectation that the lines will pay interest and expenses.

The national debt at the fall of the third empire amounted to 12,454,000,000 francs, and the annual interest was 386,000,000 francs. On Jan. 1, 1887, the capital was 23,728,000,000 francs and the interest charge had risen to 826,000,000 francs. The interest and annuities provided for in the budget for 1890 are 433,555,116 francs of 3 per cent. *rente*, 305,540,303 francs for the 44 per cents., 72,139,207 francs for annuities, 19,525,000 francs for interest on the floating debt, and 221,344,826 francs for pensions and other life interests. The capitalized amount of the consolidated debt is 21,241,621,710 francs. The floating debt consists of 824,962,500 francs of interest-bearing obligations and 81,735,700 francs bearing no interest. Annuities to companies, redeemable debt, and other obligations swell the total to over 30,000,000,000 francs. The national income has been estimated at 25,000,000,000 francs a year and the total valuation of private property at 200,000,000,000 francs.

The Army.—By the military law of 1889 the length of service is changed from twenty to twenty-five years, of which three (instead of five, as in the old law) are passed in the active army, seven in the reserve, six in the territorial army, and nine in the reserve of the territorial army. The system of one-year volunteers is abolished, and all who are incapable of serving must pay a military tax. Students for the liberal professions are required to serve one year only.

The infantry of the line is organized in 162 regiments, of which 144, each having 62 officers and 1,591 men, are divided among the 18 *corps d'armée* in France, and 18, each having 51 officers and 1,560 men, are destined to garrison the principal strong places. There are 12 battalions of mounted rifles, each with 27 officers and 800 men; 18 battalions of foot rifles, each with 19 officers and 532 men; 4 regiments of *zouaves*, each with 73 officers and 2,551 men; 4 regiments

of Algerian sharpshooters, each with 103 officers and 2,632 men; 2 regiments of the foreign legion; 5 battalions of African light infantry, each with 31 officers and 271 men; 4 companies of disciplinary troops in Algeria and Tunis; a regiment of Tonquinese sharpshooters; and 4 battalions of Annamite rifles.

The cavalry forces comprise 79 regiments of regular cavalry, 12 of cuirassiers, 28 of dragoons, 21 of rifles, 12 of hussars, and 6 of African mounted rifles. Every regiment has 37 officers, 829 men, and 732 horses. There are besides 4 regiments of *spahis*, 1 of Tunisian *spahis*, and 8 companies and 20 depots for the remount service. In accordance with the law of July 25, 1887, 2 regiments of dragoons, 2 of African rifles, and 1 of mounted rifles have been formed, and the budget of 1890 provides for 2 new regiments of hussars.

There are 19 regiments of mounted artillery, of 12 batteries each, every regiment having 77 officers, 1,274 men, and 767 horses; 19 other regiments with 9 batteries mounted and 3 batteries of horse artillery, the strength of these regiments being 77 officers, 1,280 men, and 845 horses; 4 mounted batteries, one in Algeria, one in Corsica, and two attached to the Fourteenth and Fifteenth Army Corps, each of which numbers 4 officers, 153 men, and 132 horses; and 20 batteries of mountain artillery, each consisting of 4 officers, 238 men, and 167 horses or mules. The entire number of field batteries is 480, with 2,060 pieces. The fortress artillery consists of 16 battalions of 6 batteries, each battalion numbering 4 officers, 152 men, and 6 horses, which with 4 batteries of foot artillery in Algeria make a total of 100 batteries. The artillery has a special general staff of 318 officers. There were 2 regiments of *pontoniers* which have been attached to the engineer corps.

The engineers comprise 3 regiments of sappers and miners of 4 battalions, 1 of 3 battalions, and 1 regiment of railroad sappers, having a total strength of 60 officers and 1,958 men, exclusive of 1 company of sapper conductors, with 3 officers, 77 men, and 74 horses. A battalion of engineers in Algeria and 15 companies of sapper conductors are to be created.

The train consists of 20 squadrons of 3 companies each, besides 12 companies in Algeria and 4 in Tunisia.

The budget for 1890 fixes the strength of the army on the peace footing at 555,330 officers and men and 138,301 horses, an increase of 13,965 men, of whom 201 are officers, and of 2,324 horses over 1889. The total number of officers is 26,629. The staff consists of 2,829 officers, the total *personnel* being 3,575. In the military schools are 3,214 men, of whom 567 are officers. There are 2,070 officers with 270 men unattached. The infantry of the army corps numbers 290,675 troops, including 10,781 officers; administrative troops, 11,459; cavalry, 66,500 men, including 3,188 officers; artillery, 73,162 men, including 3,078 officers; engineers, 10,212 men, including 412 officers; train, 6,907 men, including 348 officers. In Algeria there is a staff of 270 officers; an infantry force of 28,643 men, with 773 officers; 3,975 administrative troops; 600 officers and 251 men unattached; 8,327 cavalry, with 331 officers; 2,720 artillery, with 57 officers; 583 en-

gincers; and 3,772 train. In Tunis there are 12,066 men of all arms, with 346 officers. The gendarmerie, including the force in Algeria and Tunis, consists of 22,737 men, with 651 officers, and the Garde Républicaine of 3,048 men, with 82 officers. These figures include absent and furloughed men. Deducting these, the effective strength of the active army is 485,818, and of the gendarmerie and Garde Républicaine 25,526. The war effective is estimated at 3,784,000 men, of whom 2,000,000 belong to the ten-age classes of the active army and its reserve, 1,022,000, to the five classes of the territorial army, and 762,000 to the reserve of the territorial army. The territorial army has 37,000 officers. The number of men in France who have received military training is about 2,500,000. The French standing army is stronger than the German by 52,139 men, and the active troops of the territorial army, numbering 156,000 men, exceed the German reserves by 34,000 men. The annual recruit for the various categories of troops is 220,000 men, or 29,550 more than in Germany.

The land frontiers of France are guarded by a ring of fortresses beginning at the Mediterranean coast, where eleven Alpine forts block the roads from Italy, and behind them the fortified camps of Briançon, Grenoble, Lyons, and Besançon protect all the southeast border districts. On the German frontier are the four great fortresses of Belfort, Epinal, Toul, and Verdun, connected by a chain of blockade forts, continued in a row of strong places on the northeastern boundary, making an entry from the east exceedingly difficult. Behind them is a second line of first-class fortresses at Dijon, Langres, Reims, Laon, and Lille, which form the outlying defenses of the extended and strongly fortified position of Paris, the strongest fortress in the world.

By a law passed in 1890 the organization and duties of the general staff have been altered and the number of officers raised from 300 to 640. Henceforth it will not merely be the military department of the Ministry of War, charged solely with the plans and preparations for a state of war, but will have a less dependent character and will be made large enough to furnish the necessary elements for guiding in connection with the commanders the operations that are carried out in time of peace. The commanders of the army corps to be formed in time of war are already found in the members of the superior council of war, who as inspectors have charge of the corps during peace. One object in augmenting the general staff is to provide staff officers for the new formations created by the recent increase of the war effective. Officers leaving the military academy with qualifications for the general staff serve two years as staff officers with the troops, and when not serving on the general staff they are assigned to duty with their respective arms. The chief of the general staff, instead of being changed with every new Cabinet, is intended hereafter to be more permanent. The administrative duties of the staff officers will be transferred to the civil department. The officer who would control the movements of the armies in time of war is to be selected as chief of the general staff in time of peace and the natural intermediary between Gen. Saussier, the commanders-in-chief, and the Minister of

War, Gen. de Miribel, who had been chief of the general staff under Gen. Cissey and Gen. Camponon, and was a member of the ordnance commission and of the council of war and commander of the Sixth Corps, was chosen as chief of the general staff in May, 1890.

The Navy.—The effective line-of-battle ships in 1890 were 32 in number, of which 17 were built of steel or iron and steel and the others mostly of iron and wood. The 14 barbette ships range in size from 7,100 to 11,200 tons and in speed from 11 to 15 knots, with armor varying in thickness from 8½ to 22 inches. Of these the "Amiral Baudin," carrying three 14½-inch and twelve 5½-inch guns, the "Formidable," carrying three 14½-inch and twelve 5½-inch guns, with engines of 8,320 horse-power, the "Amiral Duperre," armed with four 13½-inch and fourteen 5½-inch guns, the "Caiman," "Indomptable," and "Terrible," each carrying two 16½-inch and four small guns, the "Requin," which has in addition two 10½-inch guns, the "Bayard," the "Turenne," the "Vanban," and the "Duguesclin" were all launched since 1879. There are 7 central battery ships, of which only the "Courbet" and the "Devastation," twin vessels, of 15½- and 15-inch armor, 8,000 horse-power, a speed of 15 knots, a displacement of 9,500 and 9,930 tons, and an armament of four 13½-inch, four 10½-inch, and six 5½-inch guns, are of so recent a date. The "Hoché," the "Marceau," and the "Neptune" are turret ships, each having a displacement of 10,580 tons and 18 inches of side armor. The turrets are mounted with four 13½-inch guns, except on the "Hoché," which carries two of that caliber and two of 10½ inches, with twenty 5½-inch or 2½-ton guns, of which each of the others has seventeen. The "Hoché," with engines of 5,560 horse-power, is designed to steam 17 knots, while the two others, with engines of 5,500 horse-power, can make 16½ knots. They were launched in 1887, a year after the "Hoché," and the "Magenta," of the same class, was still on the stocks at Toulon in 1890. The 5 barbette cruisers and 2 broadside ships are of older type, having 6-inch armor and no guns over 15 tons. The armor-clad coastguards comprise 3 barbette ships, 8 turret ships, 2 turret gun vessels, and 3 barbette gun vessels. Two of the barbette ships, launched in 1880 and 1883, are plated with 17½-inch armor and carry two 48-ton guns each. All of the five gun vessels have been built since 1884. The torpedo flotilla consists of 4 torpedo cruisers, 8 dispatch boats, 17 sea-going torpedo boats, 51 first-class, 60 second-class, and 7 third-class torpedo boats, and 1 submarine boat. Besides the "Magenta" there are building the "Brennus," of 10,480 tons, 2 armored cruisers, 2 first-class cruisers of about 4,200 tons, 3 second-class cruisers of 3,000 tons, and 3 third-class cruisers of 1,900 tons, with a speed of 19 or 20 knots. The navy already possesses 7 deck-protected cruisers, armed with 24-ton and 5-ton guns, 5 of which, all launched since 1886, are built of steel and are designed to steam 19 or 19½ knots. One of iron and steel, launched in 1887 can make 20 knots an hour. The programme of construction provides for 1 new battle ship, 5 armored cruisers, and 5 coast-defense vessels, all to be completed by 1895. It is proposed to build 3 more first-class ironclads, and 5 additional protected

cruisers are to be built, some of them having already been begun.

The navy was manned in 1890 by 27,685 warrant officers and sailors and officered by 15 vice-admirals, 30 rear-admirals, 100 captains of vessels, 200 frigate captains, 700 lieutenants, 420 ensigns, and 200 cadets. The marine infantry numbered 19,565 officers and men; the marine artillery, 5,774. In the budget of 1890 the sum appropriated to the navy, exclusive of the colonies, was 205,214,225 francs.

Imprisonment of the Duke of Orleans.—Louis Philippe Robert, Duke of Orleans, eldest son of the Count of Paris, on Feb. 6, 1890, the day on which he attained his majority, set out from Lausanne, where he was following the course in the Military Gymnasium, in company with his friend the Duc de Laynes, determined to brave the law of expulsion by offering himself as a recruit in the French army, in which every Frenchman owes three years' service from his twenty-first year. Having chosen the military career, he desired as a Frenchman to enter the French army rather than take service under a foreign government, and therefore, without consultation with his father, who was in the West Indies, he hastened to present himself at the recruiting bureau, telegraphing to his mother in Spain that he could not attend the funeral of his grandfather, the Duc de Montpensier, because duty required him to be in Paris. On the following day he arrived in Paris, and, going to the recruiting office, said that he was the Duke of Orleans, and asked to be entered as a recruit of the class of 1887. The law of expulsion prevented him from obtaining a commission, but it did not forbid him, he said, to be a common soldier and perform his three years of service like everybody else. The officer in charge said that he was not on the list, and told him to go to the Mairie, where the names to be drawn are inscribed. From the Mairie he was referred to the Ministry of War, and, obtaining no satisfaction, he presented his case in a letter to the Minister of War, which was scarcely dispatched when the commissary of police came and conducted him to the prefect of police, who sent him under arrest to the prison of the Conciergerie. From there he wrote a letter to President Carnot, saying that, whereas Jules Grévy's Government had turned him out of his country in 1886, the present Government had gone farther by throwing him into prison, when his only thought was to serve his country as a private soldier. A descendant of Henry IV and of many princes who had died on battle fields, he appealed to every one who loved the profession of arms and the tricolor and who understood what a Frenchman owes to his country.

The Cabinet had concluded to have him quietly conducted to the frontier, and M. Constans was still of the same opinion, when the letters to the Minister of War and to the President of the republic convinced M. Tirard and the other members of the Cabinet that the law should be invoked. As the prince had been caught in the act, it was held that the preliminary investigation could be dispensed with.

The law of June 22, 1886, forbids the territory of the republic to chiefs of the families that have reigned in France and their direct heirs in

the order of primogeniture, and prescribes the penalty of from two to five years of imprisonment for him who in violation of the interdiction is found in France, Algeria, or the colonies, directing that at the expiration of his punishment he shall be reconducted to the frontier. The duke was taken to the police court on Feb. 8, and said that he came to get enrolled as a common soldier under the law of July, 1889, which was a law of equality, while the law under which he was arraigned was a law of exception. At the suggestion of André Buffet, son of the ex-Premier, he applied for three days' postponement, to which he was entitled, in order to be defended by counsel. On Feb. 10, Cazenove de Pradine, formerly an adherent of the Comte de Chambord and one of the Royalists who strongly disapproved the alliance with Boulangism, moved in the Chamber the repeal of the law of expulsion. M. de Thévenet, the Minister of Justice, said that the time was badly chosen when the law of 1886 had been violated to demand its repeal, and the proposal was rejected by 328 votes to 171. To the Royalist Deputies and Senators who placed themselves at his disposition, the duke replied that he had no counsels to offer on political subjects, as that was his father's affair. He was brought before the correctional tribunal on Feb. 13, and to the interrogatory of the presiding judge he answered that he came to France to be a soldier, not to meddle in politics; that he knew what he exposed himself to, but loved his country and wanted to serve in the French army, and was therefore guilty of no crime; that he desired his counsel to offer no defense, having no need of indulgence or wish for clemency; that he honored the French magistracy and respected its decisions, but was certain if they condemned him that the 200,000 conscripts of his class and all honorable people would acquit him. Maître Rousse, his counsel, interposed to describe his act as one of high spirit and passion, prompted only by his youth and his heart, that serious people had called a childish freak; but he prayed that in the hour of danger they might have among them many children like this one. His argument, which he placed in the hands of the court, since his client disclaimed all legal defense, was that the general law of 1889, requiring even expatriated Frenchmen to appear at the recruiting office and imposing severe penalties and stigmas for non-compliance, repealed all former acts to the contrary, and consequently the exceptional and revocable law of 1886 in so far as it was incompatible with the absolute provisions of the law of 1889. The court decided that the contravention of the law of banishment had been proved, and condemned the duke to two years' imprisonment. The deliverance of the sentence was followed by a noisy demonstration of Royalists and the arrest of many persons. When the statutory ten days passed without an appeal being made, the Cabinet deliberated whether the duke should be pardoned and escorted across the frontier or sent to prison. The Royalist newspaper writers and politicians had in the mean time extolled the young prince as a hero and hailed him as a political leader. Still M. de Freycinet and M. Constans, as well as President Carnot, were in favor of pardon, while M. Thévenet, M. Spuller, and others, were

against it. The latter opinion prevailed as soon as the general feeling of Republicans was ascertained and Radical and Socialist Deputies threatened to demand the amnesty of all who were in prison for labor offenses. The duke was removed on Feb. 24 to Clairvaux prison, where political prisoners have often been confined. The President of the republic stood ready at any moment to grant the duke's pardon if he appealed for mercy. This he would not do, and finally on June 3 the pardon was signed, with the approval of the Cabinet, and the Duke of Orleans was conducted over the Swiss frontier, leaving a message to the conscripts of his class, saying that pardon had restored him to the pangs of exile, a change of captivity only, but nothing could alter his resolve or make him renounce the hope to take his place in the ranks among them, close to the flag, which he asked them to keep for him, and he would return to take it up.

Change of Cabinet.—On commercial, fiscal, and all other questions, the new Chamber was disposed to take the control out of the hands of the ministry, which was far from harmonious, as M. Constans, who had the credit of destroying Boulangerism and winning the elections, possessed far greater political influence than M. Tirard, and would not subordinate his judgment to that of the chief of the Cabinet. The proceedings of Parliament were troubled through the unsentiment of M. Sabouraud, a Breton Deputy, on account of clerical influence, and of others affiliated with Boulanger. Tumultuous scenes, exchanges of votes, shifting of groups, and ambitious intrigues hindered the work of the session, frustrated the ministerial programme, and paralyzed the efforts of the Government that had been triumphantly sustained by the verdict of the nation. On March 1, M. Constans seized the opportunity that a new difference of opinion, regarding the appointment of Senator Mazau to the presidency of the Court of Cassation, gave him to tender his resignation. He was succeeded as Minister of the Interior by Léon Bourgeois, born at Paris in 1851, a Radical Deputy who had been Prefect of the Seine and Under-Secretary of the Interior. Although the ministers were willing to resign the initiative in tariff questions, it was such a question that compelled their inevitable retirement. The Franco-Turkish treaty of commerce expired on March 13, 1890, and the Government negotiated for a temporary arrangement to last till 1892. The Porte agreed to consider the political treaty of 1802 as securing to each party the commercial privileges of the most favored nation. The Deputies of Aude, Hérault, Garde, and other wine-growing departments of the south, desiring to have a prohibitory duty on raisins imposed at once, raised a protest. The Chamber, which had given M. Tirard a vote of confidence after the retirement of M. Constans, was unwilling to reverse an international engagement into which the Government had already entered that involved only a *modus vivendi*, and therefore M. Méline and the bulk of the Protectionists voted to accept the arrangement. In the Senate the wine growers had more influence, and on March 14 an order of the day was adopted by 129 against 117 votes demanding that a new arrangement should be negotiated with the Porte. M. Tirard, M. Spuller, and the

rest of the Cabinet thereupon placed their resignations in the hands of M. Carnot. It was the first time that a Cabinet had fallen through a vote of the upper house since the country has been governed under the Constitution of 1875, and, according to strict constitutional principles, the verdict of the Senate might have been disregarded, and would have been if the position of the ministry had been less precarious and if there had not been the same disagreement with the Chamber on economical questions. When M. Floquet was Premier his Cabinet was many times in a minority in the Senate. The new precedent caused little remark, nor was any anxiety felt about the issue of the crisis among the Republicans when it was understood that M. Constans and M. de Freycinet would form a part of the new combination. The ministry was constituted on March 17, consisting of the following members: President of the Council and Minister of War, M. de Freycinet; Minister of Justice and Public Worship, M. Fallières; Minister of Foreign Affairs, M. Ribot; Minister of Finance, M. Rouvier; Minister of Public Instruction and Fine Arts, M. Bourgeois; Minister of Marine, Vice-Admiral Barbey; Minister of Public Works, M. Yves Guyot; Minister of Agriculture, M. Develle; Minister of Commerce, M. Jules Roche; Minister of the Interior, M. Constans. It was the fourth ministry within ten years formed under the presidency of M. de Freycinet. The new ministers were M. Ribot, M. Develle, and M. Jules Roche, all three Moderate Republicans. M. de Freycinet and M. Barbey were the only Senators, the others all being members of the Chamber.

The ministerial declaration expressed the intention of the new Cabinet to conform to the wishes to which the country had given solemn expression, and in political affairs to defend with energy not only the republican institutions, but the entire democratic achievements of former legislatures; to unite all the forces, welcoming all who will come together on the Republican platform to work in concert for the development of economical and social reforms, which are the necessary consequences of the political system that France has adopted. Thus will be founded that broad, open, tolerant, and peaceable republic that is the final condition and desired end of the struggles still going on. The country has affirmed its resolution to remodel the basis of its tariff laws, and the Government frankly joins in the idea of a more effective protection for national agriculture and labor and of the full liberty of Parliament to fix the rates of duty after the expiration of the commercial treaties. The declaration foreshadowed a scheme of social legislation, which M. Bourgeois had already propounded on taking office in the Tirard Cabinet, the Labor Conference at Berlin having brought the subject into prominence. "Living in an epoch of social transformation, when the condition of the workers is justly the subject of new preoccupations, the first duty of the public authorities is to turn their attention to the laboring people and to facilitate their elevation into a better state, a duty that no government, even that most removed by its form from a democratic constitution, can escape. The French republic, more than any other, is bound to be in-

spired by it." With this preface, the declaration contained a promise of bills with the object of developing relief for the poor, providence, the spirit of mutual assistance—in a word, all the elements of a progressive amelioration in the lot of laborers and of security for their old age. The ministry declared its purpose to be a Government in the full sense of the word, to enforce the laws at home, make France respected abroad, and show its action in all manifestations of national life, making citizens feel that the course of public affairs is not governed by chance, but obeys a firm and sustained impulse. On the demand of M. Lockroy, the Radical, for a declaration on the subject of the secularization of schools and the military service of theological students, M. de Freycinet said that the school and recruiting laws would be enforced firmly, but with fairness. The Cabinet decided to replace conventual by lay female teachers gradually, and in a way not to offend the religious sentiments of the people. The interpretation of the Turkish treaty to which M. Spuller had agreed was upheld as a temporary arrangement, lasting only till 1892.

The Tariff Question.—The near approach of the expiration of the treaties of commerce that have subsisted between France and the majority of commercial countries for thirty years has made the choice between high protection, moderate protection, and free trade the question of the day. In the Tirard Cabinet free-trade opinions prevailed, but not in the Chamber or the Senate. Deputy Méline, a Moderate Republican, president of what was called the Agrarian Group, who as president of a tariff committee and, for a part of the time, as minister had carried through the grain duties, the cattle duty, and a long series of high-tariff measures and had acted as the leader of the Protectionists of all parties during the whole period of the last Chamber, proposed the creation of a committee of fifty-five members to have charge of all customs legislation. The chief of the Cabinet, being unable to prevent the appointment of the committee, endeavored to have enough Free-traders elected to counterbalance the Protectionist element; yet it was constituted on Jan. 29, with a two-third majority of Protectionists, and M. Méline was chosen its president. The course of the committee in regard to the commercial treaties was no longer doubtful when Léon Say, in the interest of free trade, pronounced against their renewal. M. Ribot condemned the treaties as an advocate of a protective tariff not only against the industrial products of Europe but against agricultural competition from across the sea, and ex-Minister Peytral, who defended the commercial treaties, would suppress the most-favored-nation clause. The majority of the committee desired that for conventions, binding the nation for ten years, when the conditions of labor, industry, and commerce are constantly changing, there should be substituted a general tariff with moderate duties, so adjusted as to compensate French laborers and place them on an equality with foreigners. M. Ribot and M. Méline were of the opinion that two general tariffs should be established, one offering lower rates to nations giving reciprocal advantages, though some feared

that Germany might demand the application to her of the minimum tariff by virtue of the treaty of Frankfurt. The framework of a new system has already been provided by the revision begun in 1876 and completed in 1881, which changed all the *ad valorem* into specific duties and transformed a tariff that dated from the beginning of the century and was no longer in harmony with the development of industry. The Chamber and Senate agreed to increased import duties: On Indian corn, 3 francs per metric quintal; on Indian meal, 6 francs; on unhulled rice, 3 francs; on hulled rice or meal, 8 francs; on millet, 3 francs. Indian corn and rice destined for starch manufacture are entered free under regulations guarding against their being made into glucose. The Cabinet decided on submitting two tariffs, one for nations giving France commercial advantages, which can be applied or revoked at the discretion of the Government, unless Parliament shall pass a law guaranteeing a term of duration for any particular nation.

Labor Legislation.—M. Constans, as Minister of the Interior, displayed a determination to hold in check the labor agitation that made him very unpopular with the Radicals and Socialists. The exhibition year was marked by the great number of strikes, many of which were successful. For the encouragement and support of an extensive strike in the Rhone district the Municipal Council of Paris voted a sum of money; but this gift was canceled by the Government on the ground that the council had exceeded its powers. Bills for the extension of the powers of the councils of *prud'hommes* and for their election on a more popular basis, and also for the establishment of boards of arbitration to settle strikes, were submitted to the Chamber by M. Lockroy. In February Parliament voted to abolish the *livret* or workman's book, in which his successive employers record the dates of his entering and leaving their service. M. Bourgeois, on March 4, presented a programme of legislation embracing the encouragement of mutual-aid societies, co-operative associations of workmen and profit-sharing and the organization of public charity outside the towns, and the reform of the public health service. When accused by the Boulangist Laur of cringing to Germany by sending delegates to the Berlin Labor Conference, M. Spuller answered that it was an act of international life which was no innovation, though it was new that in a gathering convened by a monarchical state, France should have the honor of upholding her principles of justice and liberty, and, grown proud and strong again, she would be certain to utter there the voice of reason, humanity, civilization, and progress. M. Constans gave warning that no processions or assemblages of working men in public places would be permitted on May 1, and he took military precautions to have his interdiction respected. The 72 persons who were condemned for excesses connected with the labor manifestations were afterward pardoned by President Carnot. On May 2 and 3 strikes and labor disturbances broke out again in the north, 40,000 men leaving work in Roubaix, Turecoy, Lamnoy, Croix, and neighboring places. Louise Michel and the Marquis of Mores were arrested on the charge of inciting

labor disturbances, and the latter was condemned to imprisonment for three months because he put up placards calling a public meeting. The Minister of the Interior declared his intention of expelling from France the 4,000 or 5,000 foreigners who trouble public security, and whom he had often refused to give up to their own governments. The Chamber, on May 14, passed a bill imposing three months' imprisonment on any employer who dismisses a workman because he belongs to a trade union. M. Constans framed a bill to pay out of the state treasury one third of insurance premiums of workmen who, from the age of twenty-five, insure for an annuity not exceeding 360 francs payable after they reach the age of fifty-five. In June M. Ribot addressed a circular to French representatives abroad requesting them to furnish information respecting the matters discussed at the Berlin Conference and allied topics. He calls for reports on the condition of working people in foreign countries on the nature of labor contracts, measures taken in respect to unhealthful or dangerous workshops and occupations, the protection of women and children, the length of the working day, Sunday labor, the liability of employers, co-operative institutions, credit and savings banks for the poor, and all kinds of labor legislation enacted or proposed. This information is desired for the purpose of aiding the Government in devising a general scheme supplementing the labor laws, which are considered to be already more advanced and enlightened than those of any other country. The Minister of Commerce instituted an inquiry into the conditions of labor in France, embracing wages, hours of labor, accidents, liability of workmen to disease in various employments, night work, modes of employment, houses, dress, and food of workmen, the number of children employed, and the numbers of men and women in different occupations and their ages. Among the proposals affecting the laboring class under the consideration of the Chamber was one to appoint representative working men to supervise labor in mines. A bill concerning the liability of employers introduced by the Minister of Commerce gives workmen compensation for accidents, to be paid out of a fund assessed on all employers of the respective classes.

The Orléanists.—At the time when the Duke of Orléans went to Paris in defiance of the law of expulsion to offer himself as a conscript, the Duc de Chartres and other members of the Orléans family almost persuaded the Count of Paris to abdicate his right of succession to the crown of France in favor of his son. The alliance with the Bonlangists, into which the Count of Paris had reluctantly entered, and which many of the old followers of the Comte de Chambord had entirely disapproved, came to an end after the flight of Boulanger, who was subsequently deserted by a large number of his own adherents. In September revelations regarding the alliance were published by M. Mermeix, which reflected discredit not only on Gen. Boulanger but on the Bourbon pretender and his advisers. The Duchesse d'Uzès acknowledged that she had given a large part of the electioneering fund that was distributed profusely by the Bonlangist candidates. The Orléanists were not willing to coalesce with the Bonlangists at

first, but when she offered to pay the expenses of the campaign, the Count of Paris and his brother accepted the proposal, themselves contributing nothing. It was understood that after the restoration of the monarchy she should receive back the sum that she gave to Gen. Boulanger, which was 3,000,000 francs. After the disclosures, when on the point of leaving for the United States, the Count of Paris wrote a letter for publication, dated Sept. 23, in which he attempted to justify his course in the following words:

I think I have understood well at a difficult moment the interests of the Monarchist cause. Prescribed by the republic, I take up, in order to fight it, the arms with which it supplies me. I do not regret having made use of them to divide the Republicans. Their agitation before the elections, their violence after them, show what would have been the consequences of success.

As the representative of monarchy I ought to neglect no opportunity of preparing its triumph. I desired that speech should be restored to the country. I have never pursued any other aim and have never expected anything except from France. To-day I ask my friends not to delay, not to indulge in recriminations over the past, but to assert resolutely their faith in the monarchical principle, and to unite to continue the struggle.

The Paris Anti-Slavery Congress.—The congress convoked by Cardinal Laviegrie met in Paris on Sept. 22. The programme embraced the following points: (1) Public adherence to the general act of the International Anti-Slavery Conference at Brussels; (2) the division of the anti-slavery work among independent national committees and the determination of their spheres of action; (3) the examination of the question whether it is advisable for the committees to lend their active co-operation to their respective governments by organizing bodies of armed troops and the study of the best means to secure resources for the committees as provided in the Brussels general act. The desire of the French society was to limit the action of each national committee to the territories protected by its flag. To this the delegates of the British and Foreign Anti-Slavery Society would not agree, and they were supported in their objection by delegates from Germany, Italy, and Belgium. The resolutions that were adopted approve the formation of separately organized committees in each country united in a common object, acting in the first place by pacific means, especially by supporting missionary work for the moral improvement of the negroes. The national committees shall endeavor to enlist the sympathy of private persons and to obtain voluntary support, and the hope is expressed that the Pope will sanction an annual appeal for funds. Measures are recommended to be taken to prevent abuses in recruiting colored laborers and to guard the liberty of the blacks, and Mohammedan states are requested to watch against dangers threatening civilization and the liberty of the negroes in consequence of the development of certain Mohammedan sects. The national committees are desired to publish reports of their work. The hope was expressed that goods sent to Africa in connection with missionary work may be admitted free of duty. A resolution of thanks was passed for the gift of 200,000 francs as a prize for the

best popular work on the anti-slavery movement. It was decided to hold another congress in two years.

Algeria.—The administration of Algeria is carried on by a civil governor-general under the orders of the ministry, and all laws are made by the French Chambers, in which each of the three Algerian departments is represented by a Senator and two Deputies. The Governor-General is Louis Tirman, who was appointed in 1881. The area is 477,913 square miles, and the population in 1886 was 3,817,306, of whom 25,972 were French, 43,182 naturalized Jews, 3,262,849 natives of Algeria, 18,194 Moors, 4,344 Tunisians, and 217,386 Spaniards, Italians, Maltese, Germans, and other foreigners. The males numbered 2,014,013; females, 1,791,671. The city of Algiers had 74,792 inhabitants; Oran, 67,681; Constantine, 44,960. The military force in Algeria is the Nineteenth Corps of the French army, numbering about 54,000 men and 16,000 horses, in addition to which there are the *zonaves*, foreign legions, native sharpshooters, *Turcos*, and *spahis* or cavalry scouts. The expenses of civil administration in 1888 were 43,602,887 francs; military expenses, 53,352,489 francs; extraordinary expenditure, 26,658,797 francs; total, 123,614,173 francs. The revenue that year was 36,935,300 francs.

The total value of the imports in 1888 was 234,908,120 francs, of which France furnished 173,630,107 francs and French colonies 16,298,879 francs. The exports to France were 159,438,372 francs and the total exports 197,699,565 francs, against 185,959,302 francs in 1887 and 182,255,123 francs in 1886. The principal exports to France in 1888 were cereals of the value of 32,003,325 francs, wine of the value of 42,928,445 francs, animals of the value of 34,047,699 francs, and wool of the value of 20,914,706 francs. Sheep and goats are raised in great numbers by the Arabs in the region of the high plateaus, where nothing grows but alfa grass and the scanty vegetation on which these animals feed. The wool is good in quality, and the sheep are in great demand in France, which consumes 3,000,000 or 4,000,000 every year, and in some years nearly double that number. Alfa fiber was imported into Great Britain to the amount of 248,000 tons in 1888, valued at 11,000,000 francs. Small quantities are consumed also in France, Germany, and Belgium. The plant thrives in heat and drought, and grows wild everywhere except in damp soil; yet, since it requires fifteen years to arrive at maturity and can be killed by too frequent plucking, there is a general law against gathering it between Jan. 1 and July 1. The demand has fallen away, owing to the larger use of wood pulp for making paper, and the price has greatly decreased. Of the 4,014,980 hectares that were cultivated in 1887, there were 2,803,224 hectares under wheat, barley, and other cereals. The vineyard area was 70,041 hectares, producing 1,665,995 hectolitres of wine, and this has since been much enlarged. The crop of olives in 1886 was 54,764,000 pounds; the quantity of oil extracted 9,034,652 gallons. About 11,000 hectares were devoted in 1887 to tobacco, of which 5,631,945 quintals were produced. In 1886 the quantity of iron ore exported was 432,671 tons, valued at 3,604,028 francs, the main part of which went to the United States.

The length of railroads in 1889 was 1,600 miles. The receipts were 21,069,098 francs. There were 7,000 miles of telegraphs, with 16,000 miles of wire, in 1887. They are operated by a subsidized company.

Tunis.—The treaty of Kasr-es-Said, signed on May 12, 1881, after the bombardment of Sfax and the occupation of the country by French troops, placed the principality of Tunis, which is nominally a vassal state of the Turkish Empire, under the protectorate of France. A resident general, under the direction of the French Ministry of Foreign Affairs, practically governs the country. The reigning Bey is Sidi Ali, who succeeded to the throne on Oct. 28, 1882. The French Resident-General is M. Massicault. A garrison of about 10,000 French troops is maintained at the cost of the republic.

The area of Tunis is about 45,000 square miles and the population is estimated at 1,500,000, consisting mainly of Bedouin Arabs and Kabyles, the latter descended from the aboriginal inhabitants. The city of Tunis has between 100,000 and 150,000 inhabitants, of whom 20,000 are Europeans.

The revenue for the year ending Oct. 12, 1889, was estimated at 31,876,000 piasters and the expenditure at the same figure. The Tunisian debt in 1884 was consolidated into a 4-per-cent. *rente* of 6,307,520 francs a year, and on Dec. 17, 1888, this was converted into 34-per-cent. bonds extinguishable in ninety-nine years.

The total value of imports in 1888 was 31,334,403 francs, of which 17,175,632 came from France. The exports amounted to 19,654,978 francs, of which 5,242,557 francs were shipped to France and 4,308,793 francs to Algeria, the greater part being destined for France likewise, as there are no customs barriers between Tunis and Algeria, and therefore the productions of western Tunis are sent by railroad to Bona, to be shipped thence to France as Algerian goods. The importation from France into Tunis in 1889 amounted to 21,250,000 francs, including 5,000,000 francs of coin, and the exports to France were 16,000,000 francs, one half of the amount being specie. The country has suffered from a scarcity of money and a contraction of commercial and agricultural business. The French Government has wished to establish free trade with the protectorate, but has refrained because the British Government would not yield its claim to equal treatment under its most-favored-nation treaty with Tunis. On July 3, 1890, the French Chamber voted to reduce the duties on Tunisian products. The chief exports are olive oil, wheat, tanning material, alfa grass, barley, wool, sponges, hides and skins, cane and reed fabrics, and woolen goods. There are about 3,000,000 cattle, 20,000,000 sheep, and 5,000,000 goats. The French settlers and merchants complain that the Government has neglected Tunis, and call upon it to fix the rate of interest, though this the banks resist, and especially to encourage agriculture and to take measures to enlarge the area of cultivation. They complain also of the financial administration, which estimates the revenue beyond the actual receipts, causing a deficit, and of the increasing number of officials in all branches of the civil service. In spite of these drawbacks and of the temporary

depression, production and commerce have been greatly increased under the French protectorate, and enormous progress has been made in justice, education, and civil government. Railroads, 260 miles in length, connect with the Algeian system. The length of telegraphs is 2,000 miles.

In May, 1890, the Bey issued a decree requiring every employer of negro domestics to give them an official certificate that they are free and imposing a penalty of imprisonment from three months to three years on all persons selling, buying, or holding slaves. Cardinal Lavigerie says that a few of the old families have kept their slaves from tradition, but the number is constantly diminishing, and soon none will be left.

Colonies.—The area of the colonies of France, including Algeria, which is considered politically as a part of the republic, with that of the protectorates, was in 1887 about 1,250,000 square miles and the total population nearly 30,000,000.

In Asia the old colony of Pondicherry, with an area of 203 square miles, in 1887 had, with dependencies, a population of 282,723, of whom 279,970 are Indians and 962 Europeans by descent. The local budget in 1888 was 1,952,014 francs; the expenditure of the Central Government, 469,296 francs. The imports in 1887 were 5,900,000 francs; the exports, 21,400,000 francs, of which 9,600,000 francs were exports of produce of the colony.

French Cochín-China, annexed in 1861, is 23,000 square miles in extent, and in 1887 contained 1,864,214 inhabitants. Cambodia, which was taken under the French protection in 1802, with an area of 32,390 square miles, has about 1,500,000 inhabitants. Tonquin, which was made a French colony in 1884, contains a population of 12,000,000 in a territory of 34,700 square miles, and the less thickly peopled Kingdom of Annam, declared a protectorate in the same year, has some 5,000,000 more on an area of 106,250 square miles. The administration is in the hands of native officials. Prince Bun Can was proclaimed King on Jan. 31, 1889. French troops occupy part of the citadel at Hué, the capital. The port of Tulane has been ceded to France, and Quin Hon and Xuan Day are open to European commerce. The four colonies and protectorates were placed in 1887 under the direction of a Superior Council of Indo-China and were united in a customs union. The imports of the union in 1888 amounted to 71,828,153 francs, and the exports to 68,079,305 francs. From Annam the chief exports are cinnamon, sugar, cotton, tea, coffee, tobacco, and seeds; from Cambodia, salt fish, cotton, beans, cardamom seeds, and sugar. In Cochín-China, where 2,000 Europeans are settled, the main product is rice, which constitutes 70 per cent. of the total exports. Tonquin produces rice, sugar, silk, and cotton, raw and manufactured, oils, pepper, tobacco, copper, and iron. The total imports of Annam were reported in 1888 as 4,362,370 francs; exports, 3,372,383 francs. From Cambodia the exports of native produce amounted to 12,000 francs. The imports of Cochín-China were valued at 39,392,851 francs, and the exports at 69,513,433 francs. In 1889 the rice crop was short. Only 280,000 tons were exported, against 500,000 tons in 1888, and in the country districts the people suffered from want of food. The

deficiency in the exports was partly supplied by the trade in raw cotton that has sprung up between the colony and Japan. The imports into Tonquin were 23,881,012 francs in value and the exports 6,988,249 francs. The revenue of Tonquin and Annam in 1888 was 17,321,000 francs, and the expenditure 17,034,620 francs; the revenue of Cambodia was 3,275,000, and the expenditure 3,059,236 francs; the revenue and expenditure of Cochín-China were made to balance at 30,215,943 francs. These sums do not include the expenditures of the French Government, which are given in the budget for 1890 as 12,450,000 francs for Tonquin and Annam and 6,288,718 francs for Cochín-China. In Annam 23,230 troops are maintained, of whom 11,830 are native levies; in Cambodia the French garrison numbers 300; in Tonquin there were 11,475 French troops and 6,500 native soldiers in 1889. In Cochín-China a garrison is kept of 5,600 European troops in addition to 2,800 Annamite soldiers. In the early months of 1890 several fights took place between the French troops and pirates in the remoter provinces of Tonquin. In February the bands of Doc Sung and Thanh Dhuat were pursued in Bacninh and an attempt was made to surround them. Pirates attacked the post of Lakaon in Haiduong on Feb. 2, and were repelled after a severe combat. The Doi Vo was surprised in his village by a French force early in March, and offered a desperate resistance, but was finally killed, freeing the province of Bacninh from a troublesome brigand. At the end of March a severe encounter took place between Thanh Dhuat and a French patrol, which carried his village at the point of the bayonet. A few days later Lient, de Miribel laid an ambuscade for a band of 300 Chinese brigands, and put them to flight, rescuing their captives. Lun Ky, who infests the neighborhood of Dong Trien, captured two Frenchmen, who were only released on the payment of a heavy ransom.

The American colonies of France are Guadeloupe and adjacent islands, in the Lesser Antilles, the island of Martinique, French Guiana, and the fishing islands of St. Pierre and Miquelon, near the coast of Newfoundland. Guadeloupe has an area of 720 square miles, and contained 182,182 inhabitants in 1888. The revenue and expenditure were made to balance at 5,027,130 francs in 1889. The expenditure of the mother country in 1890 was 2,122,085 francs. Besides sugar, of which 58,075,430 kilogrammes were produced in 1886, valued at 17,670,250 francs, coffee, cacao, spices, vanilla, manioc, and other food plants, and to some extent cotton, ramie, and tobacco are grown, and valuable timber is cut in the forests. There are 60 miles of railroad. The imports in 1887 were 14,196,966 francs in value, and the exports 21,519,696 francs. Martinique, with an area of 380 square miles, and 175,391 inhabitants in 1888, grows sugar and a little coffee, cacao, and tobacco for export, and manioc, yams, and bananas for food. The imports in 1887 amounted to 23,461,450 francs, the chief items being textiles, flour, fertilizers, salt fish, and rice. The exports were valued at 20,859,310 francs, 11,873,774 francs standing for sugar, and 5,401,211 francs for liquors. The chief commercial center is St. Pierre, with 20,000

inhabitants. Fort de France, the political capital, with 14,000 inhabitants, was half destroyed by a fire on June 22, 1890. Guiana is a penal colony. There are about 8,500 inhabitants in the town of Cayenne and 12,000 in the interior, besides savage tribes in the mountains. The number of convicts is about 3,500 in the penitentiaries and at large. The local budget was 2,003,374 in 1888 and the French expenditure was 1,597,805 francs. St. Pierre and Miquelon had 5,992 inhabitants in 1887. The catch of codfish was valued at 13,439,532 francs, and the total exports at 18,230,272 francs.

New Caladonia, in the Pacific, is a penal colony, having an area of 6,000 square miles, one third of which has been allotted to natives and colonists, leaving only about 600 square miles of land suitable for cultivation. The population in 1887 was 62,752, of which number 5,585 were colonists, 3,476 officials and military, 41,874 natives, 1,825 imported laborers, 2,515 liberated convicts, and 7,477 convicts under sentence. The local revenue in 1888 was 2,109,626 francs, and the grant from the French Government in 1890 was 2,377,000 francs. Wheat, Indian corn, and other cereals are cultivated, as well as coffee, sugar, cocoa-nuts, cotton, and other sub-tropical products. There are about 120,000 cattle in the island. Copper, nickel, cobalt, and coal have been found. The imports amounted in 1887 to 8,052,378 francs, and the exports to 2,406,475 francs. In the same region of the ocean France possesses the Loyalty Islands, the Isle of Pines, and the uninhabited Huron and Chesterfield groups of guano islands. The Loyalty Islands have an area of 730 square miles. There are also the Uvea or Wallis Islands, with an area of 39 square miles and 3,500 inhabitants, and the Isles sous le Vent, annexed in 1888. The French establishments in Oceania consist of the Society Islands, the Marquesas, Tuamotu, Gambier, and Tubuai groups, with the island of Rapa, and the Howe Islands. Tahiti, the chief of the Society Islands, is 412 square miles in area, and Moorea, the second largest, 50 square miles, the former containing 11,200 and the latter 1,600 inhabitants. The expenditure of the local administration in 1888 was 1,077,998 francs; that of the French Government, 795,866 francs. The total imports in 1887 amounted to 3,099,167 francs, and the exports, consisting of copra, cotton, sugar, coffee, pearls, and shells, to 3,215,045 francs. Northwest of the group France possesses Raiatea and Tubuai-Moru, Huahine, Bora-Bora, and other scattered islands. In the summer of 1890 war ships bombarded two villages in Huahine, and a landing party reduced the inhabitants to submission. An attempt to subjugate the rebellious inhabitants of Raiatea was less successful, as they fled to the mountains.

The French possessions and protected territories in Africa had in 1876 a total extent of 283,450 square miles. The expansion of Algeria and the acquisition of Tunis, Madagascar, and the Congo region swelled this dominion to 861,600 square miles before 1888, and this area has been more than trebled by the accessions in the Sahara, the Western Soudan, and the regions of the Niger and upper Senegal, announced since then and confirmed by international agreement. In 1890 the French colonies, protectorates, and

acknowledged sphere of influence had an extent of 2,800,248 square miles, more territory than is actually claimed by any other power and nearly one fourth of the entire surface of the continent.

The colony of Senegal or Senegambia has a coast line from Cape Blanco in the north, though this boundary is disputed, to the northern limit of Liberia, broken by the districts belonging to Great Britain and Portugal. The boundaries between the French possessions and the English colonies of Sierra Leone and Gambier were settled by a diplomatic arrangement made at Paris on Aug. 10, 1889. The settled coast region has an area of 14,600 square miles, not including the territory of the Southern Rivers, which was set apart from Senegal in January, 1890, and placed under the administration of the Lieutenant-Governor of Senegal, residing at Konakry, on the Dubreka river, whose authority extends to the settlements on the Gold Coast. The population of Senegal is 181,600, and that of the Southern Rivers district 43,898, 1,470 of the total being whites. In the rear of Senegal is the French Soudan, of which 50,600 square miles, with 283,660 inhabitants, had been annexed before 1890 and 97,300 square miles, with 299,580 inhabitants, had been taken under French protection through treaties with the native rulers. St. Louis, the capital of Senegal, has 20,000 inhabitants. The chief exports are gum, ground-nuts, India-rubber, woods, and skins, the total value in 1889 having been 16,500,000 francs. The cultivated area in 1886 was 1,653,000 acres and the value of the product was 15,658,000 francs. The revenue in 1889 was 2,782,474 francs, not counting the expenditure of the French Government, which was 7,639,309 francs. There are 164 miles of railroad on the coast, and a line is building from Medina, the head of navigation on the Senegal, to the Niger, of which 74 miles have been built, reaching Bafulabe. The French have endeavored to join their settlements on the Guinea coast to the territories acquired on the upper Niger. In Ashantee and Mossi the British have forestalled them, leaving only Dahomey and the country beyond, in which the British Niger Company is seeking to gain a foothold. The occupation of Kotonu and the war with the King of Dahomey have revived the traditional claims to that country (see DAHOMEY). The possessions on the Gold Coast consist of Grand Bassam and Assinie, Grand Popo and Agoué, Porto Novo and Kotonu. Although placed under the supervision of the Lieutenant-Governor of Senegal, they are separate colonies with an autonomous administration. Since Jan. 1, 1890, they have been divided into two distinct colonies, one embracing the western settlements on the Gold Coast and the other the group on the Bight of Benin. The area of French territory in Guinea is about 9,000 square miles. Porto Novo is separated from the English colony of Lagos by a line from Agarrah creek to the coast. The Gold Coast exports to France in 1888 were 1,229,670 francs in value.

For more than thirty years French administrators have pursued the purpose of extending the Algerian and Senegambian territories until they joined in an uninterrupted domain reaching from the Mediterranean to the Atlantic, and more recently the idea has been conceived of a continuous belt binding the acquisitions on the

upper Niger to the French territories on the Congo, embracing the rich states of the Western and Central Soudan. It has been proposed to continue the Trans-Saharan Railroad, long since planned to connect Algeria through the Tuareg country with Kuka, the capital of Bornu, on Lake Tchad, southward to the Congo as well as westward to Senegal. A few years ago French influence in the Niger region was undisputed, and consequently no strong efforts were made to confirm and extend it. Factories that once existed were abandoned by reason of the barbarity of the people and lack of trade. After the British, whose attention had been called to the commercial possibilities of the Niger by the explorations of Robert Flegel, the German traveler, established themselves on the lower Niger and the Benue, a French commercial company was founded to dispute the field with the Royal Niger Company, and maintained itself for two years. In 1882, after making a vain appeal for assistance to the French Government, it sold its factories to its rival. Since 1888 the French Government has made strong efforts to perfect its title to the upper Niger and the region in the bend of the river. On April 6, 1890, Capt. Archinard, commander-in-chief of the French Soudan, occupied Segu-Sikoro, the capital of Ahmadou, on the left bank of the upper Niger. The French have had relations with Ahmadou since 1866. He is the son of the prophet El Hadj Omar, who founded the empire of Segu and during his lifetime divided it among his three sons. One of the provinces is south of the Senegal in the Foutah Djallon, one north of the river, and one on both sides of it. Ahmadou overcame his brothers and reunited the empire, but the Beledjuu and other regions asserted their independence. Since the French have extended their dominion to the upper Niger and connected it with a chain of occupied posts to Senegal the Mohammedan Kingdom of Ahmadou, was the only formidable obstacle to the progress of French influence in the Soudan. The sacred city was taken without losing a man. The French were aided by the Bambaras, who possessed the country forty years ago, and have since been subjected to the yoke of Ahmadou. The King's son Madani, and all his court fled, leaving the royal treasure, which was found to consist of English gold. There were other indications that the English of Sierra Leone intrigued to supplant French influence. A Bambara chief was installed as ruler when the Muslims were subdued in a final encounter. In September Ahmadou resumed the offensive and attempted to besiege Kuminkari, but was repelled with the loss of 380, and his army fled in confusion toward Niore. During the summer Capt. Binger made treaties with all the chiefs in the bend of the Niger, and by a treaty with Samory sought to establish a connection with the French possessions on the Gulf of Guinea. This design the English authorities in Sierra Leone attempted to frustrate by sending a mission to Almany Samory.

The Anglo-German agreement, handing over Zanzibar to the English protectorate, gave M. Ribot an opportunity to ask for the recognition of a French sphere in Africa, for an English protectorate could not be established without

breach of a covenant entered into between France and Great Britain on March 10, 1862, guaranteeing the independence of the Sultan of Zanzibar. A verbal agreement of similar tenor which the French Government had made in respect to Madagascar had given ground to Great Britain, and through its example to other powers, to refuse to recognize the French protectorate over that island, and in consequence the consuls and agents have never applied for *exequaturs* through the intermediary of the French Resident-General, as required in the French treaty with the Hovas Queen. The French minister requested, as a condition of assenting to the protectorate over Zanzibar and Pemba, that the British Government should formally acknowledge the rights acquired by France over Madagascar and recognize French claims to the *Hinterland* of Algeria and Senegambia. French pretensions were put forward to the whole of the Niger from the point where it turns eastward and to a sphere of influence embracing the Lake Tchad States and the whole of the Western and Central Soudan, and extending southward to the Mcbangi tributary of the Congo. The English claimed Sokoto and its vassal state, Gando, by virtue of a treaty made by Joseph Thomson in 1885. This treaty only conferred commercial privileges for a distance of 30 miles on either side of the Benue and Niger, but while the discussion was going on it was supplemented by a new treaty granting the British Niger Company jurisdiction over all foreigners throughout the two kingdoms. The British Government would at first concede only the region above Bornu, but finally agreed to a line of demarcation between the French and English spheres starting from Say, on the Niger, thus dividing Gando, and ending at Baruwawa on Lake Tchad, in the country of Bornu, a little distance north of Koka. An agreement to this effect was embodied in declarations exchanged on Aug. 5, 1890, and the details of the line were left to commissioners to be appointed by the two Governments, it being understood that the whole of Sokoto is included in the British sphere. Bornu, Wadui, and the other states of the Soudan are left to be the future prize of whichever power can first establish protectorates by treaty with the native sovereigns.

The contiguous territories of Gaboon and the French Congo have a combined area of 297,900 square miles. The population of Gaboon is 186,500, and that of the Congo region is roughly estimated at 500,000. On the coast, along the Ogowe and the road to the Congo, and on the Congo are 27 stations. Besides the garrisons there are about 300 whites in the country. Ivory, palm oil, caoutchouc, and ebony are exported, and trials are being made in planting coffee, tobacco, sugar-cane, and the vanilla orchid. The total trade in 1887 amounted to 7,374,800 francs, the bulk of it being in the hands of the Dutch. The revenue of 743,884 francs was supplemented by a grant of 2,805,377 francs from the French treasury in 1888. In March, 1890, a dispatch was received from the acting Governor of the Congo State that a French post on the Ubangi had been attacked and all the whites massacred by cannibals.

Madagascar has an estimated area of 228,500

square miles, and a population of about 3,500,000; the Hovas, who are the dominant race, numbering something like 1,000,000; the Sakalavas, in the western parts of the island, about the same; the Betsileos and Betsimi Sakaras together, 1,000,000; and the Bavas and Antaiavas, 250,000 each. Antananarivo, the capital, has 100,000 inhabitants. The Queen of the Hovas is Ranavalona III. She professes Christianity, together with the chief officers of her court, the London Missionary Society having introduced Christianity into the island many years ago. There are about 350,000 Protestant Christians, and 35,000 Catholics. By a treaty signed at Tamatave on Dec. 12, 1885, the direction of all the foreign relations of the country was transferred to the French Government, and must be conducted through the French Resident-General, who resides at the capital and is permitted to maintain a military escort. The United States alone among the powers protested against this treaty, but none of them have hitherto formally recognized the French protectorate, and the Malagasy Government has assumed the right to grant *exequaturs* to consuls and to continue direct diplomatic intercourse with foreign governments. By the Anglo-French agreement of Aug. 5, 1890, the British Government recognizes the protectorate, with its consequences, especially as regards *exequaturs*. The missionaries of both countries shall enjoy complete protection, and toleration and liberty for all forms of worship and religious teaching is guaranteed. Rights and immunities enjoyed by British subjects can not be suppressed or abridged. The district on the Bay of Diego Suarez annexed as a French colony contained 4,607 inhabitants in 1887. The home Government in 1890 appropriated 1,956,455 francs for the colony, in addition to the local budget of 100,720 francs. Gold has been discovered at Maeratanarivo, on the west coast, and in February, 1890, white adventurers began to flock to the new gold field from all quarters, but mostly from the islands of Mauritius and Bourbon. Gold has long been known to exist, besides copper, galena, iron, graphite, and coal, and considerable quantities of gold, as well as of copper, have been mined for the Government, which has been able before these last discoveries to prevent an influx of foreign miners and has employed 1,000 natives in the mines. Ancient laws were in force which prohibited under severe penalties any search for precious metals. The French protectorate has led to the repeal of these and all statutes against the commercial development of the country by foreigners. The forests, which abound in valuable cabinet woods, have been leased on the northeast coast to European companies, and much timber has been felled and shipped abroad. The natives breed cattle, cultivate rice, sugar, coffee, and cotton, and are skillful in working metals and weaving cloth from silk, cotton, and the fiber of the rofia palm. Cattle, caoutchouc, hides, hemp, rofia, coffee, sugar, vanilla, wax, gum copal, and rice are exported. The trade is principally with Great Britain, France, and Réunion, the United States, and Mauritius. The American trade is on the increase. Of \$287,000 worth of exports from Tamatave, the principal port, in the first half of 1887 the share of France was \$84,000, while that

of the United States was \$117,000. The total imports for 1888 were estimated at \$810,000, the chief item being cotton goods of the value of \$357,000, mainly of English manufacture. The total exports were \$870,000, the largest items being skins of the value of \$352,000, caoutchouc of the value of \$273,000, rofia of the value of \$80,000, and wax of the value of \$57,000.

Of the small islands near Madagascar, Ste. Marie and Réunion have been subject to France for more than two hundred years. The latter, 970 square miles in extent, had a population in 1887 of 163,881, of whom 120,532 were Creoles. The product of sugar in 1886 was 31,847 tons, 8,559,663 francs in value. Of coffee 343 tons were exported, and of vanilla 69 tons. Spices are also raised, and rice, wheat, beans, and Indian corn are some of the food products. The plantations are cultivated by East Indian and negro indentured laborers, slavery having been abolished in 1870. The number of Hindu coolies imported in 1887 was 25,801; of Africans, 15,480. The total value of imports in 1887 was 28,123,361 francs; of exports, 13,319,046 francs. The local revenue was 4,639,034 francs in 1888; the expenditure, 4,639,002 francs; expenditure of the French Government, 4,255,860 francs. Ste. Marie de Madagascar has an area of 64 square miles, with a population in 1887 of 7,468. Cloves are cultivated for export. Nossi Bé, off the west coast of Madagascar, has an area of 112 square miles and a population of 8,281, mostly Malagasy and African natives. Sugar, rice, and coffee are cultivated. Mayotte, with an area of 140 square miles and 10,551 inhabitants in 1887, of whom only 38 were French, produced in that year 3,000 tons of sugar and 18,000 gallons of rum. Another product is vanilla. The total value of imports in 1887 was 1,130,000 francs; of exports, 1,695,000 francs. The local expenditure was 234,000 francs; and that of the home Government in 1889 was 250,440 francs, besides 12,200 francs for the Comoro Islands, which are under the same administration. These islands, equidistant from Madagascar and the African shore, were declared a protectorate in 1886. They have an area of 618 square miles and an estimated population of 53,000, most of whom are Mohammedans.

The colony and coaling station of Obock, on the Gulf of Aden has, with the territory on the Bay of Tajurah, an area of 2,300 square miles and a population of 22,370 souls. There is some trade with Shoa and other countries inland. The expenditure of France in 1890 was 497,441 francs, including 121,191 francs in the naval budget. The Italian Government has desired to annex Harrar, an independent country, through which passes all the trade of Shoa, but has been semi-officially informed whenever the subject was spoken of that the French Government would not accept an Italian occupation of that territory. The people of Harrar have shown hostility to Europeans for some time, and marauding tribes have threatened French caravans. About Jan 1, 1890, one was attacked near Obock, but the assailants were driven off by the Soudanese soldiery in the service of the French. Shortly afterward the English suffered defeat when they sent a force of Sepoys under Brig.-Gen. Hogg to punish the natives for a raid on Bulhar.

FRÉMONT, JOHN CHARLES, an American explorer, born in Savannah, Ga., Jan. 21, 1813; died in New York city, July 13, 1890. He was descended from a good family of Lyons, France. His father, driven from his home by political trouble, was seeking refuge with a relative in Santo Domingo, when he was captured by a British cruiser and imprisoned. After several years he made his escape, intending to return to his native land; but, on reaching Norfolk, Va., he was compelled to remain there waiting for a vessel and money for his voyage. He began teaching French in Norfolk, and soon an attachment sprang up between him and Anne Beverly Whiting, which resulted in their marriage and the abandonment by Frémont of his purpose to go home. Soon after their marriage the couple set out on a journey, of the nature of an exploration, to the South and West, visiting the Indian tribes and examining aboriginal remains. During this tour their first child, John Charles, was born. After the death of her husband in 1818 Mrs. Frémont, with her three children, settled in Charleston, S. C.

At the age of fourteen John was placed in the law office of John W. Mitchell, who, recognizing his talent, and pleased with his energy and devotion to study, placed him under the tuition of Dr. Robertson, a private classical teacher, with whom he remained a year, when he entered the junior class in Charleston College. In after-life he wrote to Dr. Robertson: "I am far from either forgetting you, or neglecting you, or in any way losing the old regard I had for you. There is no time to which I go back with more pleasure than that spent with you, for there was no time so thoroughly well spent; and of anything I may have learned I remember nothing so well and so distinctly as what I acquired with you." Dr. Robertson adds: "I can not help saying that the merit was almost all his own. It is true that I encouraged and cheered him on; but if the soil into which I put the seeds of learning had not been of the richest quality they would never have sprung up to a hundred-fold in the full ear." Frémont's mother was exceedingly anxious that her son should become a clergyman, and at this time he united with the Protestant Episcopal Church. He showed at first the same ardor in study that had characterized him earlier, but, becoming enamored of a West Indian beauty, he absented himself so often from recitations that he was reprimanded. As he refused to apologize or to return to his duties, he was expelled from college. After the death of a brother and a sister, he privately resumed his studies, but he abandoned all thought of the ministry, and devoted himself with ardor to scientific and mathematical work, teaching mathematics in an evening school, and becoming a private tutor. In 1833 the United States sloop-of-war "Natchez" was sent to Charleston because of the "nullification" troubles, whence it was ordered to cruise along the coast of South America. Frémont obtained the post of teacher of mathematics on board, and set out on a voyage of two and a half years. On his return the college bestowed on him the degree of A. B. and afterward that of A. M. He applied for one of the then recently established naval mathematical professorships, and was one of a few who were

able to pass at Baltimore the rigid examination required. He was appointed to the frigate "Independence," when he suddenly determined to exchange his profession for a more active one. He became a surveyor and civil engineer, and examined a railroad route between Charleston and Augusta. He then obtained the place of assistant engineer under Capt. William G. Williams, of the United States Topographical Corps, on surveys for a railroad to be built between Charleston and Cincinnati, his work being especially the exploration of the mountain passes between North Carolina and Tennessee. When this work was finished, Frémont accompanied Capt. Williams in an examination of the Cherokee country of Georgia, North Carolina, and Tennessee. The region was mountainous, and the reconnaissance was made rapidly, in mid-winter, in anticipation of war with those Indians.

In 1838 Frémont accompanied Jean Nicolas Nicollet in a governmental survey of the country between the Missouri and the northern boundary, and in July of that year he was commissioned by President Van Buren as second lieutenant of Topographical Engineers. He spent two years with the expedition, and then went to Washington to prepare his report. Here he met Miss Jessie Benton, daughter of Thomas H. Benton, Senator from Missouri. She was but fifteen years old, and her parents objected to her receiving the addresses of the young lieutenant, who was captivated at first sight, and when he was ordered on a Government survey of Des Moines river the young lovers believed that Senator Benton had obtained the order for the purpose of separating them. The survey was done rapidly, and on Frémont's return they ran away and were married privately on Oct. 19, 1841. A year later Frémont was placed in command of an expedition to explore the Rocky mountains, especially the South Pass. In his report he says: "I set out from Washington city on the 2d day of May, 1842, and arrived at St. Louis, by way of New York, the 22d of May, where the necessary preparations were completed, and the expedition commenced. I had collected in the neighborhood of St. Louis 21 men, principally Creole and Canadian *voyageurs*, who had become familiar with prairie life in the service of the fur companies in the Indian country. Mr. Charles Preuss, a native of Germany, was my assistant in the topographical part of the survey; L. Maxwell, of Kaskaskia, had been engaged as hunter; and Christopher Carson (more familiarly known, for his exploits in the mountains, as Kit Carson) was our guide." During this journey Frémont ascended the highest peak of the Rocky mountains, in the Wind River range, and examined the headwaters of the Platte river. An extract from his report of these occurrences will serve better than the words of another to show Frémont's courage, his skill as a writer, and his ability to serve the several sciences that his expedition called for. His report excited admiration in Europe as well as at home, and forms an interesting page in the voluminous records of the man who, from his services of this kind, was popularly called the "Pathfinder":

I was desirous to keep strictly within the scope of my instructions, and it would have required ten or fifteen additional days for the accomplishment of this

object; our animals had become very much worn out with the length of the journey; game was very scarce; and the spirits of the men had been much exhausted by the hardships and privations. Our provisions had well-nigh all disappeared. Bread had been long out of the question; and of all our stock, we had remaining two or three pounds of coffee and a small quantity of macaroni, which had been husbanded with great care for the mountain expedition we were about to undertake. Our daily meal consisted of dry buffalo meat, cooked in tallow; and, as we had not dried this with Indian skill, part of it was spoiled; and what remained of good was as hard as wood, having much the taste and appearance of so many pieces of bark. Even of this our stock was rapidly diminishing in a camp which was capable of consuming two buffaloes in every twenty-four hours. These animals had entirely disappeared; and it was not probable that we should fall in with them again until we returned to the Sweetwater.

Our arrangements for the ascent were rapidly completed. We were in a hostile country, which rendered the greatest vigilance and circumspection necessary. The pass at the north end of the mountain was greatly infested by Blackfeet, and immediately opposite was one of their forts, on the edge of a little thicket, two or three hundred feet from our encampment. We were posted in a grove of beech, on the margin of the lake, and a few hundred feet long, with a narrow *prairie* on the inner side, bordered by the rocky ridge. In the upper end of this grove we cleared a circular space about forty feet in diameter, and, with the felled timber and interwoven branches, surrounded it with a breastwork five feet in height. A gap was left for a gate on the inner side by which the animals were to be driven in and secured, while the men slept around the little work. It was half hidden by the foliage, and garrisoned by twelve resolute men, would have set at defiance any band of savages which might chance to discover them in the interval of our absence. Fifteen of the best mules, with fourteen men, were selected for the mountain party. Our provisions consisted of dried meat for two days, with our little stock of coffee and some macaroni. In addition to the barometer and thermometer, I took with me a sextant and spy glass, and we had, of course, our compasses. In charge of the camp I left Bernier, one of my most trustworthy men, who possessed the most determined courage.

12th.—Early in the morning we left the camp, fifteen in number, well armed, of course, and mounted on our best mules. A pack animal carried our provisions, with a coffee pot and kettle and three or four tin cups. Every man had a blanket strapped over his saddle, to serve for his bed, and the instruments were carried by turns on their backs. We entered directly on rough and rocky ground, and just after crossing the ridge had the good fortune to shoot an antelope. We heard the roar, and had a glimpse of a waterfall as we rode along, and, crossing in our way two fine streams, tributary to the Colorado, in about two hours' ride we reached the top of the first row or range of the mountains. Here, again, a view of the most romantic beauty met our eyes. It seemed as if, from the vast expanse of uninteresting prairie we had passed over, Nature had collected all her beauties together in one chosen place. We were overlooking a deep valley, which was entirely occupied by three lakes, and from the brink the surrounding ridges rose precipitously five hundred and a thousand feet, covered with the dark green of the balsam pine, relieved on the border of the lake with the light foliage of the aspen. They all communicated with each other, and the green of the waters, common to mountain lakes of great depth, showed that it would be impossible to cross them. The surprise manifested by our guides when these impassable obstacles suddenly barred our progress, proved that they were among the hidden treasures of the place, unknown even to the wandering trappers of the region. Descending the hill, we proceeded to make our way along the margin to the

southern extremity. A narrow strip of angular fragments of rock sometimes afforded a rough pathway for our mules, but generally we rode along the shelving side, occasionally scrambling up at a considerable risk of tumbling back into the lake.

The slope was frequently 60°; the pines grew densely together, and the ground was covered with the branches and trunks of trees. The air was fragrant with the odor of the pines, and I realized this delightful morning the pleasure of breathing that mountain air which makes a constant theme of the hunter's praise, and which now made us feel as if we had all been drinking some exhilarating gas. The depths of this unexplored forest was a place to delight the heart of a botanist. There was a rich undergrowth plants, and numerous gay-colored flowers in brilliant bloom. We reached the outlet at length, where some freshly barked willows that lay in the water showed that beaver had been recently at work. There were some small brown squirrels jumping about in the pines, and a couple of large mallard ducks swimming in the stream.

The hills on the southern end were low, and the lake looked like a mimic sea, as the waves broke on the sandy beach in the force of a strong breeze. There was a pretty open spot, with fine grass for our mules; and we made our noon halt on the beach, under the shade of some large hemlocks. We resumed our journey after a halt of about an hour, making our way up the ridge on the western side of the lake. In search of smoother ground, we rode a little inland; and, passing through groves of aspen, soon found ourselves again among the pines. Emerging from these, we struck the summit of the ridge above the upper end of the lake.

We had reached a very elevated point, and in the valley below and among the hills were a number of lakes of different levels; two or three hundred feet above others, with which they communicated by foaming torrents. Even to our great height the roar of the cataracts came up, and we could see them leaping down in lines of snowy foam. From this scene of busy waters we turned abruptly into the stillness of a forest, where we rode among the open bolls of the pines, over a lawn of verdant grass, having strikingly the air of cultivated grounds. This led us, after a time, among masses of rock, which had no vegetable earth but in hollows and crevices, though still the pine forest continued. Toward evening we reached a defile, or rather a hole in the mountains, entirely shut in by dark pine-covered rocks. A small stream, with scarcely perceptible current, flowed through a level bottom of perhaps eighty yards' width, where the grass was saturated with water. Into this the mules were turned, and were neither hobbled nor picketed during the night, as the fine pasturage took away all temptation to stray; and we made our bivouac in the pines. The surrounding masses were all of granite. While supper was being prepared, I set out on an excursion in the neighborhood, accompanied by one of my men. We wandered about among the crags and ravines until dark, richly repaid for our walk by a fine collection of plants, many of them in full bloom. Ascending a peak to find the place of our camp, we saw that the little defile in which we lay communicated with the long green valley of some stream which, here locked up in the mountains, far away to the south found its way in a dense forest to the plains. Looking along its upward course, it seemed to conduct, by a smooth gradual slope, directly toward the peak, which from long consultation as we approached the mountain we had decided to be the highest of the range. Pleased with the discovery of so fine a road for the next day, we hastened down to the camp, where we arrived just in time for supper. Our table service was rather scant; and we held the meat in our hands, and clean rocks made good plates, on which we spread our macaroni. Among all the strange places on which we had occasion to encamp during our long journey, none have left so vivid an impression on my mind as the camp of

this evening. The disorder of the masses which surrounded us—the little hole through which we saw the stars overhead—the dark pines where we slept—and the rocks lit up with the glow of our fires, made a night picture of very wild beauty.

13th.—The morning was bright and pleasant, just cool enough to make exercise agreeable, and we soon entered the defile I had seen the preceding day. It was smoothly carpeted with soft grass, and scattered over with groups of flowers, of which yellow was the predominant color. Sometimes we were forced, by an occasional difficult pass, to pick our way on a narrow ledge along the side of the defile, and the mules were frequently on their knees; but these obstructions were rare, and we journeyed on in the sweet morning air, delighted at our good fortune in having found such a beautiful entrance to the mountains. This road continued for about three miles, when we suddenly reached its termination in one of the grand views which, at every turn, meet the traveler in the magnificent region. Here the defile up which we had traveled opened out into a small lawn, where, in a little lake, the stream had its source.

There were some fine asters in bloom, but all the flowering plants appeared to seek the shelter of the rocks, and to be of lower growth than below, as if they loved the warmth of the soil, and kept out of the way of the winds. Immediately at our feet a precipitous descent led to a confusion of defiles, and before us rose the mountains, as we have represented them in the annexed view. It is not by the splendor of far-off views, which have lent such a glory to the Alps, that these impress the mind; but by a gigantic disorder of enormous masses, and a savage sublimity of naked rock, in wonderful contrast with innumerable green spots of a rich floral beauty, shut up in their stern recesses. Their wildness seems suited to the character of the people who inhabit the country.

I determined to leave our animals here, and make the rest of our way on foot. The peak appeared so near that there was no doubt of our returning before night; and a few men were left in charge of the mules, with our provisions and blankets. We took with us nothing but our arms and instruments, and, as the day had become warm, the greater part left our coats. Having made an early dinner, we started again. We were soon involved in the most ragged precipices, nearing the central chain very slowly, and rising but little. The first ridge bid a succession of others; and when, with great fatigue and difficulty, we had climbed up 500 feet, it was but to make an equal descent on the other side; all these intervening places were filled with small deep lakes which met the eye in every direction, descending from one level to another, sometimes under bridges formed by huge fragments of granite, beneath which was heard the roar of the water. These constantly obstructed our path, forcing us to make long *détours*; frequently obliged to retrace our steps, and frequently falling among the rocks. Maxwell was precipitated toward the face of a precipice, and saved himself from going over by throwing himself flat on the ground. We clambered on, always expecting with every ridge that we crossed to reach the foot of the peaks, and always disappointed, until about four o'clock when, pretty well worn out, we reached the shore of a little lake in which was a rocky island. We remained here a short time to rest, and continued on around the lake, which had in some places a beach of white sand, and in others was bound with rocks, over which the way was difficult and dangerous, as the water from innumerable springs made them very slippery.

By the time we had reached the further side of the lake, we found ourselves all exceedingly fatigued, and, much to the satisfaction of the whole party, we encamped. The spot we had chosen was a broad flat rock, in some measure protected from the winds by the surrounding crags, and the trunks of fallen pines afforded us bright fires. Near by was a foaming torrent, which tumbled into the little lake about one hundred and fifty feet below us, and which, by way

of distinction, we have called Island lake. We had reached the upper limit of the piny region; as, above this point, no tree was to be seen, and patches of snow lay everywhere around us on the cold sides of the rocks. The flora of the region we had traversed since leaving our mules was extremely rich, and, among the characteristic plants, the scarlet flowers of the *Dodecatheon dentatum* everywhere met the eye in great abundance. A small green ravine, on the edge of which we were encamped, was filled with a profusion of alpine plants in brilliant bloom. From barometrical observations made during our three days' sojourn at this place its elevation above the Gulf of Mexico is 10,000 feet. During the day we had seen no sign of animal life; but among the rocks here we heard what was supposed to be the bleat of a young goat, which we searched for with 'hungry activity, and found to proceed from a small animal of a gray color, with short ears and no tail—probably the Siberian squirrel. We saw a considerable number of them, and, with the exception of a small bird like a sparrow, it is the only inhabitant of this elevated part of the mountains. On our return we saw, below this lake, large flocks of the mountain goat. We had nothing to eat to-night. Lajeunesse, with several others, took their guns and sallied out in search of a goat; but returned unsuccessful. At sunset the barometer stood at 20.522; the attached thermometer 50°. Here we had the misfortune to break our thermometer, having now only that attached to the barometer. I was taken ill shortly after we had encamped, and continued so until late in the night, with violent headache and vomiting. This was probably caused by the excessive fatigue I had undergone and want of food, and perhaps, also, in some measure, by the rarity of the air. The night was cold, as a violent gale from the north had sprung up at sunset, which entirely blew away the heat of the fires. The cold, and our granite beds, had not been favorable to sleep, and we were glad to see the face of the sun in the morning. Not being delayed by any preparation for breakfast, we set out immediately.

On every side, as we advanced, was heard the roar of waters, and of a torrent, which we followed up a short distance, until it expanded into a lake about one mile in length. On the northern side of the lake was a bank of ice, or rather of snow covered with a crust of ice. Carson had been our guide into the mountains, and, agreeably to his advice, we left this little valley, and took to the ridges again, which we found extremely broken, and where we were again involved among precipices. Here were ice fields; among which we were all dispersed, seeking each the best path to ascend the peak. Mr. Preuss attempted to walk along the upper edge of one of these fields, which sloped away at an angle of about twenty degrees; but his feet slipped from under him, and he went plunging down the plain. A few hundred feet below, at the bottom, were some fragments of sharp rock, on which he landed; and, though he turned a couple of somersaults he fortunately received no injury.

Two of the men, Clement Lambert and Descoiteaux, had been taken ill, and lay down on the rocks, a short distance below; and at this point I was attacked with headache and giddiness, accompanied by vomiting, as on the day before. Finding myself unable to proceed, I sent the barometer over to Mr. Preuss, who was in a gap 200 or 300 yards distant, desiring him to reach the peak if possible, and take an observation there. He found himself unable to proceed further in that direction, and took an observation, where the barometer stood at 19.401; attached thermometer 50°, in the gap. Carson, who had gone over to him, succeeded in reaching one of the snowy summits of the main ridge, whence he saw the peak toward which all our efforts had been directed, towering 800 or 1,000 feet into the air above him. In the mean time, finding myself grow rather worse than better, and doubtful how far my strength would carry me, I sent Basil Lajeunesse, with four men, back to the place where the mules had been left.

We were now better acquainted with the topography of the country, and I directed him to bring back with him, if it were in any way possible, four or five mules, with provisions and blankets. With me were Maxwell and Ayer; and after we had remained nearly an hour on the rock, it became so unpleasantly cold, though the day was bright, that we set out on our return to the camp, at which we all arrived safely, straggling in one after the other. I continued ill during the afternoon, but became better toward sundown, when my recovery was completed by the appearance of Basil and four men, all mounted. The men who had gone with him had been too much fatigued to return, and were relieved by those in charge of the horses; but in his powers of endurance Basil resembled more a mountain goat than a man. They brought blankets and provisions, and we enjoyed well our dried meat and a cup of good coffee. We rolled ourselves up in our blankets, and, with our feet turned to a blazing fire, slept soundly until morning.

15th.—It had been supposed that we had finished with the mountains; and the evening before it had been arranged that Carson should set out at daylight, and return to breakfast at the Camp of the Mules, taking with him all but four or five men, who were to stay with me and bring back the mules and instruments. Accordingly, at the break of day they set out. With Mr. Preuss and myself remained Basil Lajeunesse, Clement Lambert, Janisse, and Descoeurs. When we had secured strength for the day by a hearty breakfast, we covered what remained, which was enough for one meal, with rocks, in order that it might be safe from any marauding bird, and, saddling our mules, turned our faces once more toward the peaks. This time we determined to proceed quietly and cautiously, deliberately resolved to accomplish our object if it were within the compass of human means. We were of opinion that a long defile which lay to the left of yesterday's route would lead us to the foot of the main peak. Our mules had been refreshed by the fine grass in the little ravine at the Island Camp, and we intended to ride up the defile as far as possible, in order to husband our strength for the main ascent. Though this was a fine passage, still it was a defile of the most rugged mountains known, and we had many a rough and steep slippery place to cross before reaching the end. In this place the sun rarely shone; snow lay along the border of the small stream which flowed through it, and occasional icy passages made the footing of the mules very insecure, and the rocks and ground were moist with the trickling waters in this spring of mighty rivers. We soon had the satisfaction to find ourselves riding along the huge wall which forms the central summits of the chain. There at last it rose by our sides, a nearly perpendicular wall of granite, terminating 2,000 to 3,000 feet above our heads in a serrated line of broken, jagged cones. We rode on until we came almost immediately below the main peak, which I denominated the Snow peak, as it exhibited more snow to the eye than any of the neighboring summits. Here were three small lakes of a green color, each, perhaps, of a thousand yards in diameter, and apparently very deep. These lay in a kind of chasm; and, according to the barometer, we had attained but a few hundred feet above the Island lake. The barometer here stood at 20°45', attached thermometer 70°.

We managed to get our mules up to a little bench about a hundred feet above the lakes, where there was a patch of good grass, and turned them loose to graze. During our rough ride to this place they had exhibited a wonderful surefootedness. Parts of the defile were filled with angular, sharp fragments of rock, three or four and eight or ten feet cube; and among these they had worked their way, leaping from one narrow point to another, rarely making a false step, and giving us no occasion to dismount. Having divested ourselves of every unnecessary encumbrance, we commenced the ascent. This time, like experienced travelers, we did not press ourselves, but climbed leisurely, sitting down so soon as we

found breath beginning to fail. At intervals we reached places where a number of springs gushed from the rocks, and about 1,800 feet above the lakes came to the snow line. From this point our progress was uninterrupted climbing. Hitherto I had worn a pair of thick moccasins, with soles of *porpache*, but here I put on a light, thin pair which I had brought for the purpose, as now the use of our toes became necessary to a further advance. I availed myself of a sort of comb of the mountain, which stood against the wall like a buttress, and which the wind and the solar radiation, joined to the steepness of the smooth rock, had kept almost entirely free from snow. Up this I made my way rapidly. Our cautious method of advancing at the outset had spared my strength; and, with the exception of a slight disposition to headache, I felt no remains of yesterday's illness. In a few minutes we reached a point where the buttress was overhanging, and there was no other way of surmounting the difficulty than by passing around one side of it, which was the face of a vertical precipice of several hundred feet.

Putting hands and feet in the crevices between the blocks, I succeeded in getting over it, and, when I reached the top, found my companions in a small valley below. Descending to them, we continued climbing, and in a short time reached the crest. I sprang upon the summit, and another step would have precipitated me into an immense snow field five hundred feet below. To the edge of this field was a sheer icy precipice; and then, with a gradual fall, the field sloped off for about a mile, until it struck the foot of another lower ridge. I stood on a narrow crest, about three feet in width, with an inclination of about 20° north 51° east. [This mountain is now known as Frémont's Peak, in western Wyoming.—Ed.] As soon as I had gratified the first feelings of curiosity, I descended, and each man ascended in his turn; for I would only allow one at a time to mount the unstable and precarious slab, which it seemed a breath would hurl into the abyss below. We mounted the barometer in the snow of the summit, and, fixing a ramrod in a crevice, unfurled the national flag to wave in the breeze where never flag waved before. During our morning's ascent, we had met no sign of animal life, except the small sparrow-like bird already mentioned. A stillness the most profound and a terrible solitude forced themselves constantly on the mind as the great features of the place. Here, on the summit, where the stillness was absolute, unbroken by any sound, and solitude complete, we thought ourselves beyond the region of animated life; but while we were sitting on the rock, a solitary bee (*bromus*, the humble-bee) came winging his flight from the eastern valley, and lit on the knee of one of the men. It was a strange place, the icy rock and the highest peak of the Rocky mountains, for a lover of warm sunshine and flowers; and we pleased ourselves with the idea that he was the first of his species to cross the mountain barrier—a solitary pioneer to foretell the advance of civilization. I believe that a moment's thought would have made us let him continue his way unharmed; but we carried out the law of this country, where all animated nature seems at war; and, seizing him immediately, put him in at least a fit place—in the leaves of a large book, among the flowers we had collected on our way. The barometer stood at 18°293, the attached thermometer at 44°; giving for the elevation of this summit 13,570 feet above the Gulf of Mexico, which may be called the highest flight of the bee. It is certainly the highest known flight of that insect. From the description given by Mackenzie of the mountains where he crossed them, with that of a French officer still farther to the north, and Col. Long's measurements to the south, joined to the opinion of the oldest traders of the country, it is presumed that this is the highest peak of the Rocky mountains. The day was sunny and bright, but a slight shining mist hung over the lower plains, which interfered with our view of the surrounding country. On one side we overlooked innumerable lakes and

streams, the spring of the Colorado of the Gulf of California; and on the other was the Wind River valley, where were the heads of the Yellowstone branch of the Missouri; far to the north, we could just discover the snowy heads of the *Trois Tetons*, where were the sources of the Missouri and Columbia rivers; and at the southern extremity of the ridge, the peaks were plainly visible, among which were some of the springs of the Nebraska or Platte river. Around us, the whole scene had one main, striking feature, which was that of terrible convulsion. Parallel to its length, the ridge was split into chasms and fissures, between which rose the thin lofty walls, terminated with slender minarets and columns. According to the barometer, the little crest of the wall on which we stood was 3,570 feet above that place, and 2,780 above the little lakes at the bottom, immediately at our feet. Our camp at the Two Hills (an astronomical station) bore south 2° east, which, with a bearing afterward obtained from a fixed position, enabled us to locate the peak. The bearing of the *Trois Tetons* was north 50° west, and the direction of the central ridge of the Wind River mountains south 32° east. The summit rock was gneiss, succeeded by sienitic gneiss. Sienite and feldspar succeeded in our descent to the snow line, where we found a feldspathic granite. I had remarked that the noise produced by the explosion of our pistols had the usual degree of loudness, but was not in the least prolonged, expiring almost instantaneously.

Having now made what observations our means afforded, we proceeded to descend. We had accomplished an object of laudable ambition, and beyond the strict order of our instructions. We had climbed the loftiest peak of the Rocky mountains, and looked down upon the snow a thousand feet below; and, standing where never human foot had stood before, felt the exultation of first explorers. Our coffee had been expended, but we now made a kind of tea from the roots of the wild-cherry tree.

23d.—Yesterday evening we reached our encampment at Rock Independence, where I took some astronomical observations. Here, not unmindful of the custom of early travelers and explorers in our country, I engraved on this rock of the far West a symbol of the Christian faith. Among the thickly inscribed names I made on the hard granite the impression of a large cross, which I covered with a black preparation of India-rubber well calculated to resist the influence of wind and rain. It stands amid the names of many who have long since found their way to the grave, and for whom the huge rock is a giant gravestone. One George Weymouth was sent out to Maine by the Earl of Southampton, Lord Arundel, and others; and in the narrative of their discoveries, he says: "The next day we ascended in our pinnace that part of the river which lies more to the westward, carrying with us a cross—a thing never omitted by any Christian traveler—which we erected at the ultimate end of our route." This was in the year 1605; and in 1842 I obeyed the feeling of early travelers, and left the impression of the cross deeply engraved on the vast rock 1,000 miles beyond the Mississippi, to which discoverers have given the national name of Rock Independence.

In obedience to my instructions to survey the river Platte, if possible, I had determined to make an attempt at this place. The India-rubber boat was filled with air, placed in the water, and loaded with what was necessary for our operations; and I embarked with Mr. Preuss and a party of men. When we had dragged our boat a mile or two over the sands, I abandoned the impossible undertaking, and waited for the arrival of the party, when we packed up our boat and equipment, and at nine o'clock were again moving along on our land journey. We continued along the valley on the right bank of the Sweet Water, where the formation, as already described, consists of a grayish micaceous sandstone and fine-grained conglomerate and marl. We passed over a ridge which borders or constitutes the river hills

of the Platte, consisting of huge blocks, 60 or 80 feet cube, of decomposing granite. The cement which united them was probably of easier decomposition, and has disappeared and left them isolate, and separated by small spaces. Numerous horns of the mountain goat were lying among the rocks; and in the ravines were cedars, whose trunks were of extraordinary size. From this ridge we descended to a small open plain, at the mouth of the Sweet Water, which rushed with a rapid current into the Platte, here flowing along in a broad and apparently deep stream, which seemed, from its turbid appearance, to be considerably swollen. I obtained here some astronomical observations, and the afternoon was spent in getting our boat ready for navigation the next day.

24th.—We started before sunrise, intending to breakfast at Goat Island. I had directed the land party, in charge of Bernier, to proceed to this place, where they were to remain should they find no note to apprise them of our having passed. In the event of receiving this information, they were to continue their route, passing by certain places which had been designated. Mr. Preuss accompanied me, and with us were five of my best men. Here appeared no scarcity of water, and we took on board, with various instruments and baggage, provisions for ten or twelve days. We paddled down the river rapidly, for our little craft was light as a duck on the water; and the sun had been some time risen, when we heard before us a hollow roar, which we supposed to be that of a fall, of which we had heard a vague rumor, but whose exact locality no one had been able to describe to us. We were approaching a ridge, through which the river passes by a place called "cañon" (pronounced *Kanyon*)—a Spanish word, signifying a piece of artillery, the barrel of a gun, or any kind of tube, and which in this country had been adopted to describe the passage of a river between perpendicular rocks of great height which frequently approach each other so closely overhead as to form a kind of tunnel over the stream, which foams along below, half choked up by fallen fragments. Between the mouth of the Sweet Water and Goat Island there is probably a fall of 300 feet, and that was principally made in the cañons before us; as, without them, the water was comparatively smooth. As we neared the ridge, the river made a sudden turn, and swept squarely down against one of the walls of the cañon with great velocity, and so steep a descent that it hid to the eye the appearance of an inclined plane. When we launched into this, the men jumped overboard to check the velocity of the boat, but were soon in water up to their necks, and our boat ran on. But we succeeded in bringing her to a small point of rocks on the right, at the mouth of the cañon. Here was a kind of elevated sand beach, not many yards square, backed by the rocks; and around the point the river swept at a right angle. Trunks of trees deposited on jutting points, 20 or 30 feet above, and other marks showed that the water here frequently rose to a considerable height. The ridge was of the same decomposing granite already mentioned, and the water had worked the surface, in many places, into a wavy surface of ridges and holes. We ascended the rocks to reconnoitre the ground, and from the summit the passage appeared to be a continued cataract, foaming over many obstructions, and broken by a number of small falls. We saw nowhere a fall answering to that which had been described to us as having 20 or 25 feet; but still concluded this to be the place in question, as, in the season of floods, the rush of the river against the wall would produce a great rise; and the waters, reflected squarely off, would descend through the passage in a sheet of foam, having every appearance of a large fall. It would have been a work of great time and labor to pack our baggage across the ridge, and I determined to run the cañon. We all again embarked, and at first attempted to check the way of the boat; but the water swept through with so much violence that we narrowly escaped being swamped, and were obliged to let her go in the full force of the current,

and trust to the skill of the boatman. The dangerous places in this cañon were where huge rocks had fallen from above, and hemmed in the already narrow pass of the river to an open space of three or four feet. These obstructions raised the water considerably above which was sometimes precipitated over in a fall; and at other places, where this dam was too high, rushed through the contracted opening with tremendous violence. Had our boat been made of wood, in passing the narrows she would have been staved; but her elasticity preserved her unhurt from every shock, and she seemed fairly to leap over the falls.

In this way we passed three cataracts in succession, where perhaps 100 feet of smooth water intervened; and, finally, with a shout of pleasure at our success, issued from our tunnel into the open day beyond. We were so delighted with the performance of our boat, and so confident in her powers, that we would not have hesitated to leap a fall of ten feet with her. We put to shore for breakfast at some willows on the right bank, immediately below the mouth of the cañon; for it was now eight o'clock, and we had been working since daylight, and were all wet, fatigued, and hungry. While the men were preparing breakfast, I went out to reconnoitre. The view was very limited. The course of the river was smooth, so far as I could see; on both sides were broken hills, and but a mile or two below was another high ridge. The rock at the mouth of the cañon was still the decomposing granite, with great quantities of mica, which made a very glittering sand.

We re-embarked at nine o'clock, and in about twenty minutes reached the next cañon. Landing on a rocky shore at its commencement, we ascended the ridge to reconnoitre. Portage was out of the question. So far as we could see, the jagged rocks pointed out the course of the cañon on a winding line of seven or eight miles. It was simply a narrow, dark chasm in the rock; and here the perpendicular faces were much higher than in the previous pass, being at this end 200 to 300, and further down, as we afterward ascertained, 500 feet in vertical height. Our previous success had made us bold, and we determined again to run the cañon. Everything was secured as firmly as possible; and, having divested ourselves of the greater part of our clothing, we pushed into the stream. To save our chronometer from accident, Mr. Preuss took it, and attempted to proceed along the shore on the masses of rock, which in places were piled up on either side; but, after he had walked about five minutes, everything like shore disappeared, and the vertical wall came squarely down into the water. He therefore waited until we came up. An ugly pass lay before us. We had made fast to the stern of the boat a strong rope about 50 feet long; and three of the men clambered along among the rocks, and with this rope let her slowly through the pass. In several places high rocks lay scattered about in the channel; and in the narrows it required all our strength and skill to avoid staving the boat on the sharp points. In one of these the boat proved a little too broad and stuck fast for an instant, while the water flew over us; fortunately, it was but for an instant, as our united strength forced her immediately through. The water swept overboard only a sextant and a pair of saddle bags. I caught the sextant as it passed by me; but the saddle bags became the prey of the whirlpools. We reached the place where Mr. Preuss was standing, took him on board, and, with the aid of the boat, put the men with the rope on the succeeding pile of rocks. We found this passage much worse than the previous one, and our position was rather a bad one. To go back was impossible; before us the cataract was a sheet of foam; and shut up in the chasm by the rocks, which, in some places, seemed almost to meet overhead, the roar of the water was deafening. We pushed off again; but, after making a little distance, the force of the current became too great for the men on shore, and two of them let go the rope. Lajeunesse, the third man, hung on, and was jerked head-on into the river from a rock about 12 feet

high; and down the boat shot like an arrow, Basil following us in the rapid current, and exerting all his strength to keep in mid-channel—his head only seen occasionally like a black spot in the white foam. How far we went I do not exactly know, but we succeeded in turning the boat into an eddy below. "*Cro Dieu,*" said Basil Lajeunesse, as he arrived immediately after us, "*Je crois bien que j'ai nagé un demi mile.*" He had owed his life to his skill as a swimmer, and I determined to take him and the two others on board, and trust to skill and fortune to reach the other end in safety. We placed ourselves on our knees with the short paddles in our hand, the most skillful boatman being at the bow; and again we commenced our rapid descent. We cleared rock after rock, and shot past fall after fall, our little boat seeming to play with the cataract. We became flushed with success, and familiar with the danger; and, yielding to the excitement of the occasion, broke forth into a Canadian boat song. Singing, or rather shouting, we dashed along, and were, I believe, in the midst of the chorus when the boat struck a concealed rock immediately at the foot of a fall, which whirled her over in an instant. Three of my men could not swim, and my first feeling was to assist them and save some of our effects; but a sharp concussion or two convinced me that I had not yet saved myself. A few strokes brought me into an eddy, and I landed on a pile of rocks on the left side. Looking around, I saw that Mr. Preuss had gained the shore on the same side, about 20 yards below, and a little climbing and swimming soon brought him to my side. On the opposite side, against the wall, lay the boat bottom up; and Lambert was in the act of saving Descoteaux, whom he had grasped by the hair, and who could not swim; "*Lâche pas,*" said he, as I afterward learned, "*Lâche pas, cher frère.*" "*Craïns pas,*" was the reply; "*je m'en vais mourir avant que dete lâcher.*" Such was the reply of courage and generosity in this danger. For a hundred yards below the current was covered with floating books and boxes, bales and blankets, and scattered articles of clothing; and so strong and boiling was the stream that even our heavy instruments, which were all in cases, kept on the surface, and the sextant, circle, and the long black box of the telescope were in view at once. For a moment I felt somewhat disheartened. All our books—almost every record of the journey—our journals and registers of astronomical and barometrical observations—had been lost in a moment. But it was no time to indulge in regrets; and I immediately set about endeavoring to save something from the wreck. Making ourselves understood as well as possible by signs (for nothing could be heard in the roar of the waters), we commenced our operations. Of everything on board, the only article that had been saved was my double-barreled gun, which Descoteaux had caught and clung to with drowning tenacity. The men continued down the river on the left bank; Mr. Preuss and myself descended on the side we were on; and Lajeunesse, with a paddle in his hand, jumped on the boat alone, and continued down the cañon. She was now light, and cleared every bad place with much less difficulty. In a short time he was joined by Lambert, and the search was continued for about a mile and a half, which was as far as the boat could proceed in the pass.

This journey occupied four months, and the winter of 1842-'43 was spent in preparing the report of it. When that work was finished, Frémont determined to explore the unknown country that lay between the Rocky mountains and the Pacific Ocean, and for this purpose he set out with 39 men. On Sept. 6, having traveled more than 1,700 miles, he came in sight of the Salt lake. It was his description of the valley of Salt lake that caused the Mormons to settle there, supposing that they were going out of the United States into Mexican jurisdiction. As will be seen, their unceasing

boast that they found a desert and made it blossom as the rose, is greatly exaggerated. Although a desert in which some oases have since been made by American enterprise stretched on either side of them, mountain and stream combined to make this valley picturesque and fertile. Here is Frémont's account:

21st.—An hour's travel this morning brought us into the fertile and picturesque valley of Bear river, the principal tributary to the Great Salt lake. The stream is here two hundred feet wide, fringed with willows and occasional groups of hawthorn. We were now entering a region which, for us, possessed a strange and extraordinary interest. We were upon the waters of the famous lake which forms a salient point among the remarkable geographical features of the country, and around which the vague and superstitious accounts of the trappers had thrown a delightful obscurity, which we anticipated pleasure in dispelling, but which, in the mean time, left a crowded field for the exercise of our imagination.

In our occasional conversations with the few old hunters who had visited the region, it had been a subject of frequent speculation; and the wonders which they related were not the less agreeable because they were highly exaggerated and impossible. Hitherto this lake had been seen only by trappers who were wandering through the country in search of new beaver streams, caring very little for geography; its islands had never been visited; and none were to be found who had entirely made the circuit of its shores; and no instrumental observations or geographical survey of any description had ever been made anywhere in the neighboring region. It was generally supposed that it had no visible outlet; but among the trappers, including those in my own camp, were many who believed that somewhere on its surface was a terrible whirlpool, through which its waters found their way to the ocean by some subterranean communication. All these things had made a frequent subject of discussion in our desultory conversations around the fires at night; and my own mind had become tolerably well filled with their indefinite pictures, and insensibly colored with their romantic descriptions, which, in the pleasure of excitement, I was well disposed to believe, and half expected to realize.

Where we descended into this beautiful valley it is three to four miles in breadth, perfectly level, and bounded by mountainous ridges, one above another, rising suddenly from the plain. We continued our road down the river, and at night encamped with a family of emigrants—two men, women, and several children—who appeared to be bringing up the rear of the great caravan. I was struck with the fine appearance of their cattle—six or eight yoke of oxen—which really looked as well as if they had been all the summer at work on some good farm. It was strange to see one small family traveling along through such a country, so remote from civilization. Some nine years since such a security might have been a fatal one, but since their disastrous defeats in the country a little north the Blackfeet have ceased to visit these waters. Indians, however, are very uncertain in their localities; and the friendly feelings, also, of those now inhabiting it may be changed.

According to barometrical observation at noon, the elevation of the valley was 6,400 feet above the sea; and our encampment at night in latitude 42° 3' 47", and longitude 110° 10' 53", by observation—the day's journey having been 26 miles. This encampment was therefore within the territorial limit of the United States; our traveling, from the time we entered the valley of the Green river, on the 15th of August, having been south of the 42d degree of north latitude, and consequently on Mexican territory; and this is the route all the emigrants now travel to Oregon.

Antelope and elk were seen during the day on the opposite prairie; and there were ducks and geese in the river.

The next morning, in about three miles from our encampment, we reached Smith's fork, a stream of clear water, about 50 feet in breadth. It is timbered with cottonwood, willow, and aspen, and makes a beautiful débouchement through a pass about 600 yards wide between remarkable mountain hills, rising abruptly on either side and forming gigantic columns to the gate by which it enters Bear River valley. The bottoms, which below Smith's fork had been two miles wide, narrowed as we advanced to a gap 500 yards wide, and during the greater part of the day we had a winding route, the river making very sharp and sudden bends, the mountains steep and rocky, and the valley occasionally so narrow as only to leave space for a passage through.

We made our halt at noon in a fertile bottom, where the common blue flax was growing abundantly, a few miles below the mouth of Thomas's fork, one of the larger tributaries of the river.

He next explored the upper tributaries of the Columbia and descended the river to Fort Vancouver. He set out to return with no guide but the vague report of certain lakes and rivers. Midwinter found him amid the rugged mountains that lie between the lower Columbia and the upper Colorado. The deep snows of an unusually cold and stormy winter forced him down into the desert, and starvation stared his little party in the face. Ascertaining by astronomical observation that he was in the latitude of San Francisco Bay, although the unknown extent and dangers of the Sierra Nevada mountains lay between, and the Indians warned them that they could not pass over, he set out for Sutter's Fort, and reached it after almost incredible hardships, during which horses died and stout men became deranged. The following is part of the story, as told in Frémont's report. It describes the journey over a mountain pass about fifty miles south of that through which the Central Pacific Railroad now runs, in sight of the Sacramento valley:

3d.—Turning our faces directly toward the main chain, we ascended an open hollow along a small tributary to the river, which, according to the Indians, issues from a mountain to the south. The snow was so deep in the hollow that we were obliged to travel along the steep hillsides and over spurs, where the wind and sun had in places lessened the snow, and where the grass, which appeared to be in good quality along the sides of the mountains, was exposed. We opened our road in the same way as yesterday, but made only seven miles, and encamped by some springs at the foot of a high and steep hill, by which the hollow ascended to another basin in the mountain. The little stream below was entirely buried in snow. The springs were shaded by the boughs of a lofty cedar, which here made its first appearance; the usual height was 120 to 180 feet, and one that was measured near by was six feet in diameter.

There being no grass exposed here, the horses were sent back to that which we had seen a few miles below. We occupied the remainder of the day in beating down a road to the foot of the hill, a mile or two distant, the snow being beaten down when moist in the warm part of the day, and then hard frozen at night, made a foundation that would bear the weight of the animals next morning. During the day several Indians joined us on snow-shoes. These were made of a circular hoop, a foot in diameter, the interior space being filled with an open network of bark.

4th.—I went ahead early with two or three men, each with a led horse to break the road. We were obliged to abandon the hollow entirely, and work along the mountain side, which was very steep, and the snow covered with an icy crust. We cut a footing as we advanced, and tramped a road through for the animals, but occasionally one plunged outside

the trail and slid along the field to the bottom, a hundred yards below. Late in the day we reached another bench in the hollow, where in summer the stream passed over a small precipice. Here was a short distance of dividing ground between the two ridges, and beyond an open basin, some ten miles across, whose bottom presented a field of snow. At the further or western side rose the middle crest of the mountain, a dark-looking ridge of volcanic rock. The summit line presented a range of naked peaks, apparently destitute of snow and vegetation; but below the face of the whole country was covered with timber of extraordinary size.

Toward a pass which the guide indicated here we attempted in the afternoon to force a road; but after a laborious plunging through two or three hundred yards, our best horses gave out, entirely refusing to make any further effort, and, for the time, we were brought to a stand. The guide informed us that we were entering the deep snow, and here began the difficulties of the mountain; and to him, and almost to all, our enterprise seemed hopeless. I returned a short distance back, to the break in the hollow, where I met Mr. Fitzpatrick.

The camp had been occupied all the day in endeavoring to ascend the hill, but only the best horses had succeeded; the animals generally not having sufficient strength to bring themselves up without the packs; and all the line of road between this and the springs was strewn with camp stores and equipage, and horses floundering in snow. I therefore immediately encamped on the ground with my own mess, which was in advance, and directed Mr. Fitzpatrick to encamp at the springs, and send all the animals, in charge of Tabeau, with a strong guard, back to the place where they had been pastured the night before. Here was a small spot of level ground, protected on one side by the mountain, and on the other sheltered by a little ridge of rock. It was an open grove of pines, which assimilated in size to the grandeur of the mountain, being frequently six feet in diameter.

To-night we had no shelter, but we made a large fire around the trunk of one of the huge pines; and covering the snow with small boughs, on which we spread our blankets, soon made ourselves comfortable. The night was very bright and clear, though the thermometer was only at 10°. A strong wind, which sprang up at sundown, made it intensely cold; and this was one of the bitterest nights during the journey.

Two Indians joined our party here; and one of them, an old man, immediately began to harangue us, saying that ourselves and animals would perish in the snow; and that if we would go back, he would show us another and a better way across the mountain. He spoke in a very loud voice, and there was a singular repetition of phrases and arrangement of words, which rendered his speech striking and not unusual.

We had now begun to understand some words, and with the aid of signs, easily comprehended the old man's simple ideas. "Rock upon rock—rock upon rock—snow upon snow," said he. "Even if you get over the snow, you will not be able to get down from the mountains." He made us the sign of precipices, and showed us how the feet of the horses would slip, and throw them off from the narrow trails that led along their sides. Our Chinook, who comprehended even more readily than ourselves, and believed our situation hopeless, covered his head with his blanket and began to weep and lament. "I wanted to see the whites," said he: "I came away from my own people to see the whites, and I wouldn't care to die among them,—but here—" and he looked around into the cold night and gloomy forest, and drawing his blanket over his head began again to lament. Seated around the tree, the fire illuminating the rocks and the tall bills of the pines round about, and the old Indian haranguing, we presented a group of very serious faces.

5th.—The night had been too cold to sleep, and we were up very early. Our guide was standing by the

fire with all his finery on; and seeing him shiver in the cold, I threw on his shoulders one of my blankets. We missed him a few minutes afterward, and never saw him again. He had deserted. His bad faith and treachery were in perfect keeping with the estimate of Indian character which a long intercourse with this people had gradually forced upon my mind.

While a portion of the camp were occupied in bringing up the baggage to this point, the remainder were busied in making sledges and snow-shoes. I had determined to explore the mountain ahead, and the sledges were to be used in transporting the baggage. By observation our latitude was 38° 42' 26"; and elevation by the boiling point, 7,400 feet.

6th.—Accompanied by Mr. Fitzpatrick, I set out to-day with a reconnoitring party on snow-shoes. We marched all in single file, trampling the snow as heavily as we could. Crossing the open basin, in a march of about ten miles we reached the top of one of the peaks to the left of the pass indicated by our guide. Far below us, dimmed by the distance, was a large snowless valley, bounded on the western side, at the distance of about a hundred miles, by a low range of mountains, which Carson recognized with delight as the mountains bordering the coast. "There," said he, "is the little mountain—it is fifteen years since I saw it; but I am just as sure as if I had seen it yesterday." Between us, then, and this low coast range, was the valley of the Sacramento; and no one who had not accompanied us through the incidents of our life for the last few months could realize the delight with which at last we looked down upon it. At the distance of apparently 30 miles beyond us were distinguished spots of prairie; and a dark line which could be traced with the glass was imagined to be the course of the river; but we were evidently at a great height above the valley, and between us and the plains extended miles of snowy fields and broken ridges of pine-covered mountains.

It was late in the day when we turned toward the camp, and it grew rapidly cold as it drew toward night. One of the men became fatigued, and his feet began to freeze, and, building a fire in the trunk of a dry old cedar, Mr. Fitzpatrick remained with him until his clothes could be dried and he was in a condition to come on. After a day's march of 20 miles, we straggled into the camp one after another at nightfall, the greater number excessively fatigued, only two of the party having ever traveled on snow-shoes before.

All our energies are now directed to getting our animals across the snow; and it was supposed that after all the baggage had been drawn with the sleighs over the trail we had made it would be sufficiently hard to bear our animals. At several places between this point and the ridge we had discovered some grassy spots where the wind and sun had dispersed the snow from the sides of the hills, and these were to form resting places to support the animals for a night in their passage across. On our way across we had set on fire several broken stumps and dried trees, to melt holes in the snow for the camps. Its general depth was 5 feet; but we passed over places where it was 20 feet deep, as shown by the trees.

With one party drawing sleighs loaded with baggage, I advanced to-day about four miles along the trail, and encamped at the first grassy spot, where we expected to bring our horses. Mr. Fitzpatrick, with another party, remained behind, to form an intermediate station between us and the animals.

8th.—The night has been extremely cold, but perfectly still and beautifully clear. Scenery and weather combined must render these mountains beautiful in summer; the purity and deep-blue color of the sky are singularly beautiful; the days are sunny and bright, and even warm in the noon hours; and if we could be free from the many anxieties that oppress us, even now we would be delighted here; but our provisions are getting fearfully scant. Sleighs arrived with baggage about ten o'clock; and, leaving a portion of it here, we continued on for a mile and a

half, and encamped at the foot of a long hill on this side of the open bottom.

Bernier and Godey, who yesterday morning had been sent to ascend a higher peak, got in, hungry and fatigued. They confirmed what we had already seen. Two other sleighs arrived in the afternoon; and the men being fatigued, I gave them all tea and sugar. Snow clouds began to rise in the south-southwest; and, apprehensive of a storm, which would destroy our road, I sent the people back to Mr. Fitzpatrick, with directions to send for the animals in the morning. With me remained Mr. Preuss, Mr. Talbot, and Carlson, with Jacob. Elevation of the camp, by the boiling point, is 7,920 feet.

9th.—During the night the weather changed, the wind rising to a gale, and commencing to snow before daylight; before morning the trail was covered. We remained quiet in camp all day, in the course of which the weather improved. Four sleighs arrived toward evening, with the bedding of the men. We suffer much from the want of salt; and all the men are becoming weak from insufficient food.

10th.—Taplin was sent back with a few men to assist Mr. Fitzpatrick; and, continuing on with three sleighs carrying a part of the baggage, we had the satisfaction to encamp within two and a half miles of the head of the hollow, and at the foot of the last mountain ridge. Here two large trees had been set on fire, and in the holes, where the snow had been melted away, we found a comfortable camp.

The wind kept the air filled with snow during the day; the sky was very dark in the southwest, though elsewhere very clear. The forest here has a noble appearance, and tall cedar is abundant, its greatest height being 130 feet, and circumference 20, 3 or 4 feet above the ground; and here I see for the first time the white pine, of which there are some magnificent trees. Hemlock spruce is among the timber, occasionally as large as 8 feet in diameter 4 feet above the ground; but, in ascending, it tapers rapidly to less than 1 foot at the height of 80 feet. I have not seen any higher than 130 feet, and the slight upper part is frequently broken off by the wind. The white spruce is frequent; and the red pine (*Pinus colorado* of the Mexicans) which constitutes the beautiful forest along the flanks of the Sierra Nevada to the northward, is here the principal tree, not attaining a greater height than 140 feet, though with sometimes a diameter of 10.

The elevation of our camp by the boiling point is 8,050 feet. We are now 1,000 feet above the level of the South Pass in the Rocky mountains; and still we are not done ascending. The top of a flat ridge near was bare of snow, and very well sprinkled with bunch grass, sufficient to pasture the animals two or three days; and this was to be their main point of support. This ridge is composed of a compact trap, or basalt of a columnar structure; over the surface are scattered large boulders of porous trap. The hills are in many places entirely covered with small fragments of volcanic rock.

Putting on our snow-shoes, we spent the afternoon in exploring a road ahead. The glare of the snow, combined with great fatigue, had rendered many of the people nearly blind; but we were fortunate in having some black silk handkerchiefs, which, worn as veils, very much relieved the eye.

11th.—High wind continued, and our trail this morning was nearly invisible—here and there indicated by a little ridge of snow. In the evening I received a message from Mr. Fitzpatrick, acquainting me with the utter failure of his attempt to get our mules and horses over the snow—the half-hidden trail had proved entirely too slight to support them, and they had broken through, and were plunging about or lying half buried in snow. He was occupying in endeavoring to get them back to his camp; and in the mean time sent to me for further instructions. I wrote to him to send the animals immediately back to their old pastures; and, after having made mauls and shovels, turn in all the strength of

his party to open and beat a road through the snow, strengthening it with branches and boughs of the pines.

12th.—We made mauls and worked hard at our end of the road all day. The wind was high, but the sun bright, and the snow thawing. We worked down the face of the hill to meet the people at the other end. Toward sundown it began to grow cold and we shouldered our mauls and trudged back to camp.

13th.—We continued to labor on the road; and in the course of the day had the satisfaction to see the people working down the face of the opposite hill, about three miles distant. During the morning we had the pleasure of a visit from Mr. Fitzpatrick, with the information that all was going on well. A party of Indians had passed on snow-shoes, who said they were going to the western side of the mountain after fish. This was an indication that the salmon were coming up the streams, and we could hardly restrain our impatience as we thought of them, and worked with increased vigor.

The meat train did not arrive this evening, and I gave Godey leave to kill our little dog (Tlainath), which he prepared in Indian fashion, scorching off the hair, and washing the skin with soap and snow, and then cutting it up into pieces, which were laid on the snow. Shortly afterward the sleigh arrived with a supply of horse meat; and we had to-night an extraordinary dinner—pea soup, mule, and dog.

14th.—The dividing ridge of the Sierra is in sight from this encampment. Accompanied by Mr. Preuss, I ascended to-day the highest peak to the right, from which we had a beautiful view of a mountain lake at our feet, about fifteen miles in length, and so entirely surrounded by mountains that we could not discover an outlet. We had taken with us a glass; but though we enjoyed an extended view, the valley was half hidden in mist, as when we had seen it before. Snow could be distinguished on the higher parts of the coast mountains; eastward, as far as the eye could extend, it ranged over a terrible mass of broken snowy mountains, fading off blue in the distance. The rock composing the summit consists of a very coarse, dark, volcanic conglomerate; the lower parts appeared to be of a slaty structure. The highest trees were a few scattering cedars and aspens. From the immediate foot of the peak, we were two hours reaching the summit, and one hour and a quarter in descending. The day had been very bright, still, and clear, and spring seems to be advancing rapidly. I obtained to-night some observations; and the result from these, and others made during our stay, gives for the latitude $38^{\circ} 41' 57''$; longitude, $120^{\circ} 25' 57''$.

15th.—We had succeeded in getting our animals safely to the first grassy hill, and this morning I started with Jacob on a reconnoitring expedition beyond the mountain. We traveled along the crests of narrow ridges, extending down from the mountain in the direction of the valley, from which the snow was fast melting away. On the open spots was tolerably good grass; and I judged we should succeed in getting the camp down by way of these. Toward sundown we discovered some icy spots in a deep hollow; and, descending the mountain, we encamped on the head-water of a little creek, where at last the water found its way to the Pacific. The night was clear and very long. We heard the cries of some wild animals, which had been attracted by our fire, and a flock of geese passed over during the night. Even these strange sounds had something pleasant to our senses in this region of silence and desolation.

We started again early in the morning. The creek acquired a regular breadth of about 20 feet, and we soon began to hear the rushing of the water below the icy surface, over which we traveled to avoid the snow; a few miles below we broke through where the water was several feet deep, and halted to make a fire and dry our clothes. We continued a few miles farther, walking being very laborious without snow-shoes.

I was now perfectly satisfied that we had struck the stream on which Mr. Sutter lived; and, turning about, made a hard push, and reached the camp at dark. Here we had the pleasure to find all the remaining animals, 57 in number, safely arrived at the grassy hill near the camp; and here, also, we were agreeably surprised with the sight of an abundance of salt. Some of the horse guard had gone to a neighboring hut for pine nuts, and discovered unexpectedly a large cake of very white fine-grained salt, which the Indians told them they had brought from the other side of the mountain; they used it to eat with their pine nuts, and readily sold it for goods.

On the 19th the people were occupied in making a road and bringing up the baggage; and, on the afternoon of the next day, Feb. 20, 1844, we encamped, with the animals and all the *material* of the camp, on the summit of the pass in the dividing ridge, 1,000 miles by our traveled road from the Dalles to the Columbia. The temperature of boiling water gave for the elevation of the encampment 9,338 feet above the sea.

This was 2,000 feet higher than the South Pass in the Rocky mountains, and several peaks in view rose several thousand feet still higher. Thus, at the extremity of the continent, and near the coast, the phenomenon was seen of a range of mountains still higher than the great Rocky mountains themselves. This extraordinary fact accounts for the Great Basin, and shows that there must be a system of small lakes and rivers here scattered over a flat country, and which the extended and lofty range of the Sierra Nevada prevents from escaping to the Pacific Ocean. Latitude, 38° 44'; longitude, 120° 28'.

After resting among the American settlers on this, then Mexican, territory, and purchasing the necessities for the journey, Frémont set out homeward by a southern pass over the Sierras, which had been discovered by Joseph Walker, who had at first formed one of Frémont's party, but had separated from him in the hope of finding this pass. The route Frémont was to travel he thus describes:

Our course lay along the valley of the San Joaquin, the river on our right and the lofty wall of the impassable Sierra on the left. From that pass we were to move southeastwardly, having the Sierra then on the right, and reach the "Spanish trail," deviously traced from one watering place to another, which constituted the route of the caravans from Puebla de los Angeles, near the coast of the Pacific, to Santa Fé, New Mexico. From the pass to this trail was 150 miles. Following that trail through a desert, relieved by some fertile plains indicated by the recurrence of the term *señas*, until it turned to the right to cross the Colorado, our course would be northeast until we regained the latitude we had lost in arriving at Eutah lake, and thence to the Rocky mountains at the head of the Arkansas. This course of traveling, forced upon us by the structure of the country, would occupy a computed distance of 2,000 miles before we reached the head of the Arkansas—not a settlement to be seen upon it—and the names of places along it, all being Spanish or Indian, indicated that it had been but little trod by American feet. Though long, and not free from hardships, this route presented some points of attraction in tracing the Sierra Nevada—turning the Great Basin, perhaps crossing its rim on the south; completely solving the problem of any river, except the Colorado, from the Rocky mountains on that part of our continent; and setting the southern extremity of the Great Salt lake, of which the northern part had been examined the year before.

This exploration, which proved of great benefit to the country, occupied fourteen months. The remainder of the year 1844 was spent in preparing his reports. In January, 1845, at the instance of Gen. Winfield Scott, Frémont was given the

double brevet of first lieutenant and captain, and in the spring of that year he made a third tour of exploration in the Great Basin and on the coasts of Oregon and California. After spending the summer in the Great Basin, and crossing the Sierra Nevada with a few men in the dead of winter to obtain supplies, he left most of his party in the San Joaquin valley while he went to Monterey to obtain permission from the Mexican Government to continue his exploration. War had broken out between the two countries, but news of it had not reached Frémont. His request was at first granted, as to a small portion of the country, but this was immediately revoked on the ground that, under pretense of scientific exploration, he wished to arm and arouse the American and foreign settlers against Mexican authority, and he was ordered to leave the country without delay. This the exhausted condition of his men made it impossible for him to do, and Gen. José Castro was sent with a force, to attack him. Frémont had 62 men, and took up a strong position on Hawk's peak, a mountain 30 miles from Monterey, built a fort of logs, hoisted the American flag, and prepared to defend himself. The Mexican general encamped on the plain below, and made ready for a siege. On the evening of the fourth day Frémont withdrew up the San Joaquin valley, and the fires were found still burning when a messenger arrived with proposals for a cessation of hostilities. Frémont made his way up the Sacramento valley to Oregon, with the intention of finding a new route to the Willamette valley, when he was astonished by the sudden appearance of two horsemen in United States uniform, who issued from a gorge in the mountains. They proved to be part of a guard that was conducting Lieut. Gillespie to Monterey with letters for the American consul there, and a dispatch for Frémont requesting him to look after United States interests in the country, as the Government had reason to fear that the American settlers might be disturbed and the country might be transferred to Great Britain.

Frémont set out at once to return with the party, and camped at night on the shore of a lake. As his men had ridden 60 miles that day, he let them sleep without setting a guard, while he sat up to read his letters and dispatches. About midnight he heard a movement among the horses, and went to discover the cause. The May night was absolutely quiet, and the dazzling brightness of a California moonlight revealed no sign of a human being. He sat down to read again, but, becoming overpowered by fatigue, fell asleep, to be awakened by a yell from Kit Carson. The camp was full of hostile Indians. Two of the men were dead, and a third dying, whose groans had awakened Carson. A fierce fight followed, during which several more of the men, as well as many Indians, were slain.

On reaching the Sacramento valley, Frémont found that Gen. Castro was already marching to attack the settlers. He welcomed them to his camp, and they came bringing arms, provisions, and live stock. He immediately began active operations, and on June 11 surprised a convoy of Mexicans who were taking 200 horses to Gen. Castro, and, with a dozen men, captured the

whole band. On the 15th he surprised and captured, with its officers and men, a military post at Sonoma, which contained 9 brass cannons, 250 stand of arms, and munitions of war. He proceeded toward Sacramento, but, on reaching it learned that Gen. Castro was about to attack the force he had left at Sonoma, and returning by a forced march of 80 miles he reached his garrison before the enemy. He sent out a reconnoitring party, which met the advance squadron of dragoons, attacked them, and captured 9 pieces of artillery, all the transport boats, and very nearly took prisoner De la Torre, the commander.

On July 4, Frémont called a meeting of settlers and explained the state of affairs. He proposed that they should declare themselves independent of Mexican rule, and set up a free government. They received the suggestion with enthusiasm, and appointed Frémont their chief magistrate. Gen. Castro had intrenched himself on the south side of the Bay of San Francisco, where he had 400 men and 2 field pieces. With 160 mounted riflemen Frémont set out to meet him, journeying a hundred miles. When he reached the American settlements on the Rio de los Americanos, he learned that Castro had abandoned his fortifications, and was marching to Los Angeles. He also learned that war had been declared, and that an American squadron, that of Com. Sloat, had captured Monterey. The flag of Californian independence was hauled down, and the stars and stripes were raised amid great enthusiasm.

On Aug. 12 Com. Stockton, who had arrived on the "Congress" with orders to conquer California, entered Los Angeles with Col. Frémont, whom he immediately appointed military commander and civil governor of California, and requested him to raise a body of mounted men, to be known as the "California battalion," of which he should be major. After a few engagements the Mexicans acknowledged defeat, and Frémont concluded articles of capitulation with them, which ended the war and left the territory in the possession of the United States. Meantime Gen. Stephen W. Kearny had arrived overland, with a body of troops and instructions to conquer the country and organize a government. As Com. Stockton's instructions were similar, a dispute arose between them, and as his superior officer, Gen. Kearny commanded Frémont to obey orders that conflicted with those of Com. Stockton. In this crisis Frémont sent a letter to Gen. Kearny, Jan. 17, 1847, in which he said:

I found Com. Stockton in possession of the country, exercising the functions of military commandant and civil governor, as early as July of last year; and shortly thereafter I received from him the commission of military commandant, the duties of which I immediately entered upon, and have continued to exercise until the present moment. I learned also in conversation with you that on the march from San Diego, recently, to this place, you entered upon and discharged duties implying an acknowledgment on your part of supremacy to Com. Stockton. I feel, therefore, with great deference to your professional and personal character, constrained to say that, until you and Com. Stockton adjust between yourselves the question of rank, where I respectfully think the difficulty belongs, I shall have to report and receive orders, as heretofore, from the commodore.

After the appointment of Frémont, Com. Stockton returned to the squadron and Frémont continued to exercise his functions in defiance of Gen. Kearny. In the spring dispatches from Washington assigned the command to Gen. Kearny, and he brought charges against Frémont of mutiny because of his (Gen. Kearny's) refusal to appoint him governor; of assumption of the office in default of such appointment; and of having, among other things, exercised these powers in the attempted purchase of Bird's or Pelican Island for \$5,000, for the use of the United States Government, the money to be drawn from its Treasury. In June the two officers set out for Washington. Gen. Kearny treated Frémont with studied disrespect, and when they reached Fort Leavenworth caused him to be put under arrest and ordered him to report to the adjutant-general. He reached Washington on Sept. 16, and demanded an immediate trial. This was granted, and the court-martial pronounced him guilty of "mutiny," "disobedience of the lawful command of a superior officer," and "conduct to the prejudice of good order and military discipline," and sentenced him to be dismissed from the service. But a majority of the court recommended him to the clemency of President Polk. The President refused to sustain the charge of mutiny, but approved the other decisions, including the sentence, the penalty of which he remitted. Frémont immediately resigned from the service.

On Oct. 14, 1848, he set out on an independent expedition, during which he hoped to find a practical railroad route to California by way of the upper waters of the Rio Grande. He selected 33 of his old company, provided all their equipment, and had 120 mules. His route lay among Indians who were at war with the United States. After overcoming the danger from these, the expedition reached the Sierras and began an ascent that proved fatal to all the animals and to most of the men. The guide had mistaken the pass, and no feature that could add horror to a tale of suffering was wanting in the story of this expedition. Although total failure had resulted, for the few survivors returned without affecting a crossing of the mountains, Frémont immediately procured another company and set out once more. After long journeying, they found a secure route, and reached the Sacramento in the spring of 1849. He decided to settle in California, and purchased the large Mariposa estate, which held rich gold mines. His title to it was contested, but, after a long law suit, a decision in his favor was reached in 1855 by the Supreme Court of the United States.

In 1849 he had been commissioned by President Taylor to run the boundary line between the United States and Mexico, but in December of that year he was elected to represent California in the United States Senate, and resigned his commissionership. California was admitted to the Union on Sept. 9, 1850, and he took his seat on the following day. In drawing lots for the terms of the respective Senators, he drew the short term, and the Senate remained in session but three weeks after the admission of California. In that brief period he presented and urged a series of measures comprehending almost every subject of legislation that the circumstances of California

demanded. In the State election of 1851 Frémont was one of the leaders of the anti-slavery party, which suffered defeat, and he was therefore not returned to the Senate.

In 1852 he visited Europe. He had received, for his explorations and discoveries, a gold medal from the King of Prussia and the "founder's medal" from the Royal Geographical Society of London, and had been elected an honorary member of the Geographical Society of Berlin. While in Europe he learned that Congress had appropriated money for a survey of three routes from the Mississippi valley to the Pacific, and he returned at once and organized a private expedition to complete the survey of the route he had followed in his fourth journey. In September, 1853, he set out and found two passes over the mountains, near the thirty-eight and thirty-ninth parallels of latitude, and reached California after once more enduring the hardships of a winter on the Sierras. The party was saved from starvation only by resorting to horse meat, and often had not even that for days together.

In the spring of 1855 Frémont, with his family, settled in New York for the purpose of preparing an account of his last expedition for publication. The Republican party had just been formed, and in June, 1856, it held, in Philadelphia, its first convention. Frémont's name, whose title of the "Pathfinder" expressed the idea of his service in the mind of the people, became conspicuous. On an informal ballot of the convention he had 359 votes, and on the first formal ballot he was unanimously nominated. The following are the most significant passages of his letter of acceptance:

I concur in the views of the convention deprecating the foreign policy to which it adverts. The assumption that we have the right to take from another nation its domains because we want them is an abandonment of the honest character which our country has acquired. To provoke hostilities by unjust assumptions would be to sacrifice the peace and character of the country, when all its interests might be more certainly secured and its objects attained by just and healing counsels, involving no loss of reputation. International embarrassments are mainly the results of a secret diplomacy which aims to keep from the knowledge of the people the operations of the Government. An honest, firm, and open policy in our foreign relations would command the united support of the nation, whose deliberate opinions it would necessarily reflect.

Nothing is clearer in the history of our institutions than the design of the nation, in asserting its own independence and freedom, to avoid giving countenance to the extension of slavery. The influence of the small but compact and powerful class of men interested in slavery, who command one section of the country and wield a vast political control as a consequence in the other, is now directed to turn back this impulse of the revolution and reverse its principles. The extension of slavery across the continent is the object of the power which now rules the Government; and from this spirit have sprung those kindred wrongs in Kansas so truly portrayed in one of your resolutions, which prove that the elements of the most arbitrary governments have not been vanquished by the just theory of our own.

A practical remedy is the admission of Kansas into the Union as a free State. The South should, in my judgment, earnestly desire such consummation. It would vindicate its good faith. It would correct the mistake of the repeal [of the Missouri compromise]; and the North, having practically the benefit of the

agreement between the two sections, would be satisfied, and good feeling be restored. The measure is perfectly consistent with the honor of the South, and vital to its interests. That fatal act which gave birth to this purely sectional strife, originating in the scheme to take from free labor the country secured to it by a solemn covenant can not be too soon disarmed of its pernicious force. The only genial region of the middle latitudes left to the emigrants of the Northern States for homes can not be conquered from the free laborers who have long considered it as set apart for them in our inheritance without provoking a desperate struggle. Whatever may be the persistence of the particular class which seems ready to hazard everything for the success of the unjust scheme it has partially effected, I firmly believe that the great heart of the nation, which throbs with the patriotism of the freemen of both sections, will have power to overcome it. They will look to the rights secured to them by the Constitution of the Union as the best safeguard from the oppression of the class which, by a monopoly of the soil and of slave labor to till it, might in time reduce them to the extremity of laboring upon the same terms with the slaves.

If the people intrust to me the administration of the Government, the laws of Congress in relation to the Territories shall be faithfully executed. All its authority shall be exerted in aid of the national will, to re-establish the peace of the country on the just principles which have heretofore received the sanction of the Federal Government, of the States, and of the people of both sections. Such a policy would leave no aliment to that sectional party which seeks its aggrandizement by appropriating the new Territories to capital in the form of slavery, but would inevitably result in the triumph of free labor—the natural capital which constitutes the real wealth of this great country, and creates that intelligent power in the masses alone to be relied on as the bulwark of free institutions.

After an exciting contest, the canvass resulted in the election of James Buchanan, 174 electoral votes from 19 States being given for him, and 114 electoral votes from 11 States being given for Frémont; and the 8 votes of Maryland being given to Millard Fillmore. Frémont's votes included the 6 New England States, New York, Ohio, Michigan, Iowa, and Wisconsin, and his popular vote was 1,341,000, against 1,838,000 for Buchanan, and 874,000 for Fillmore.

In 1858 Frémont went to reside in California, and in 1860 he visited Europe. After the breaking out of the civil war, in April, 1861, he was made major-general in the regular army, and given command of the newly constituted Department of the West. After purchasing arms for the United States Government, he returned.

In July, 1861, he established his headquarters in St. Louis, fortified that city, and secured Cairo by a demonstration with 4,000 troops. On the death of Gen. Nathaniel Lyon, at the battle of Wilson's creek, Aug. 10, Frémont proclaimed martial law, arrested active secessionists, and suspended the publication of newspapers that were charged with upholding the secession cause. Twenty-one days later he issued a proclamation assuming the government of the State, and announcing that he would emancipate the slaves of those in arms against the United States. President Lincoln wrote to him that he approved all his proclamations except the last clause, which he looked upon as premature, and he asked Frémont to withdraw it. Frémont replied by asking the President for an open order to do so, and the President responded by

revoking it himself. Time passed, and finally when Frémont moved his troops down the Missouri in pursuit of the enemy, complaints which had been constantly growing louder at last broke out. It was charged that his administration was at once arbitrary and inefficient; that it was extravagant and pompous. These complaints were investigated by the Secretary of War, and Frémont was relieved from his command Nov. 1, 1861, just as he had overtaken the enemy at Springfield. The citizens of St. Louis gave him an enthusiastic reception on his return. In March, 1862, he was given command of a newly constituted department, "the mountain district" of Virginia, Kentucky, and Tennessee. In June his army met a superior force under Gen. Jackson, and for eight days there was constant skirmishing, while Jackson was retreating. The pursuit ended in a severe battle at Cross Keys, in which Gen. Ashby, Jackson's chief of cavalry, was killed, and then Jackson escaped, having accomplished his purpose of hindering re-enforcements to McClellan. Frémont claimed that if he had been re-enforced by McDowell, as had been promised him by the President, Jackson's retreat could have been cut off. On June 26, the President issued an order creating the Army of Virginia, with Gen. John Pope as its commander, and Frémont's corps was to be included in it; whereupon he asked to be relieved, as he could not serve under Gen. Pope for personal reasons. He was relieved, and went to New York, where he remained throughout the remainder of the war, being given no other command, although, he says, he was promised one.

In May, 1864, a body of Republicans who were adverse to Mr. Lincoln's administration, held a convention at Cleveland, in view of the coming election, and nominated Frémont as their candidate for the presidency. He accepted the nomination, but was visited in September by a committee of Administration Republicans, and urged to withdraw his name, which he consented to do. In his letter of withdrawal he said: "I do this not to aid in the triumph of Mr. Lincoln, but to do my part toward preventing the election of the Democratic candidate."

After the war Gen. Frémont withdrew from public affairs and interested himself chiefly with railroad matters. He obtained from the Legislature of Texas a grant of land in the interest of the Memphis and El Paso Railway, which was to form part of a transcontinental road from Norfolk to San Diego and San Francisco. The French agents employed to place the land-grant bonds of this road on the French market made the false declaration that they were guaranteed by the United States Government. In 1869 the Senate granted Frémont's road the right of way through the Territories, his opponents having failed in an attempt to fix upon him the blame for the false presentation in France. The Government of that country prosecuted him for fraud in connection with the misstatement, and, by default, sentenced him to fine and imprisonment. From 1878 to 1881 Frémont was Governor of Arizona.

He published "Report of the Exploring Expedition to the Rocky Mountains in 1842, and to Oregon and North California in 1843-'44" (Washington, 1845; New York, 1846; London,

1849); "Col. J. C. Frémont's Explorations," an account of all five of his expeditions (2 vols., Philadelphia, 1859); and "Memoirs of my Life" (first volume, New York, 1886). See also the campaign biographies by John Bigelow (New York, 1856), and Charles Wentworth Upham (Boston, 1856).

FUNGI, EDIBLE. The eminent German chemist C. F. Morner says that the amount of nitrogen in edible fungi varies between 2 and 3.64 per cent. in the dry material; that 41 per cent. of the total nitrogen is made of use in alimentation; that the remainder belongs to non-assimilable bodies; and that fungi constitute a very poor kind of food, because the investigation made related to dry material and not to the moist. In this connection Morner gave several tables showing the amounts of several kinds of fungi that would be required to equal a pound of beef as follows. Mushrooms, 9 pounds; *Lactarius deliciosus*, 24 pounds; chanterelle, 41 pounds; morel, 15 pounds; *Polyporus orinus*, 67 pounds. Recent experiments at the agricultural experiment station of the State of New York do not appear to sustain the statements of Prof. Morner. A quantity of mushrooms (*Agaricus campestris*) growing in a pasture was gathered and subjected to analysis, and the digestibility of the albuminoids was determined by the pepsin method. The results were as follows:

INGREDIENTS.	Fresh substance.	Water free
Water	89.15	.....
Ash .....	.85	7.80
Albuminoids	6.08	56.00
Crude fiber .....	.76	7.05
Nitrogen-free extract	2.27	21.83
Fat (ether extract) .....	.79	7.82
Total nitrogen .....	.....	8.96
Albuminoids digested .....	.....	84.30

The total nitrogen found in the dry substance was about 2.5 times as great as the highest figures given by the German chemist, while the digestibility placed it among the exceptionally rich nitrogenous foods. Experiments were also made with puff-balls. A very large one was found to have been broken into many fragments by careless hands, but many of the broken fragments were gathered and taken for analysis. This specimen was in fine edible maturity. Another fresh one, a fine large specimen of *Lycoperdon giganteum* was examined. The following measurements were taken in connection with the analysis: Greatest diameter, 12.5 inches; height, 7.5 inches; horizontal circumference, 37.25 inches; vertical circumference, 53.5 inches; weight, 2,864 grammes, or 6.35 pounds.

INGREDIENTS.	No. 1.		No. 2.	
	Fresh substance.	Water free.	Water free.	
Water	92.18	.....	.....
Ash .....	.58	1.47	6.97	
Albuminoids	5.19	66.84	57.44	
Crude fiber .....	.89	11.42	11.07	
Nitrogen-free extract	1.05	13.98	22.05	
Fat (ether extract) .....	.11	1.44	2.47	
Total nitrogen .....	.....	10.68	9.19	
Per cent. albuminoids digested .....	.....	70.94	81.72	

In the first of the preceding tables the puff-ball was kept until the following morning before examination, when it was found to have lost 5.93 per cent. by weight. A slice from the center contained 92.18 per cent. of water. In the second table, on page 345, No. 1 refers to the whole puff-ball, which was larger and more mature than No. 2, the broken one.

The total nitrogen for one of the puff-balls was about three times as great as the highest figures by Morner, and even with the large percentage of water it compares favorably in nutritive value with meat. It would seem, from the analyses made at the station, that Morner's specimens must have been very poor, or else the fungi in Germany are not so rich in albuminoids as those growing wild in this country. This delicacy can be easily spoiled by improper cooking. A simple method which retains the purity of flavor is to slice the mushrooms very thin

(both stalk and cap), stew in a small quantity of cream and butter for ten minutes, and season with pepper and salt, being not too sparing of pepper. Many prefer water to cream, as not modifying the mushroom flavor. By no means throw away the first water, as some mistaken cook-books advise, for it contains the major portion of the spores in which the delicate aroma resides. The outer skin of the cap can be readily removed by skinning from the edge to the center, leaving the thick white fleshy cap and pink gills. Put a lump of butter with a little pepper and salt in the center of inverted young and tender mushrooms, and then place them in a hot frying pan till the butter permeates them. Their richness is, for many people, enhanced by the addition of wines and spices for extra seasoning, but nothing can exceed the satisfaction of an epicure in the pure taste of the simply prepared meadow mushroom.

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GEOGRAPHICAL PROGRESS IN 1890.

Africa.—Since the greater geographical features of the Dark Continent have been one after another revealed, interest is centering in the political questions that arise as its territory is appropriated with more or less appearance of justice by the various nations of Europe. In an article on the subject by J. Scott Keltie estimates are made of the amount of territory directly or indirectly under the influence of European nations, and the area still unclaimed by any of them. He says: "It is doubtful if there are more than 2,000,000 square miles open to disposal by international arrangement or otherwise—that is, about one sixth of the whole continent." This includes Egypt, the Egyptian Soudan, Tripoli, Morocco, and the Sahara to the south of these two states. Of the territory appropriated, France holds the greatest extent, amounting to about 2,500,000 square miles, or more than one fifth of the continent. But it must be noted that although this includes Algiers and Tunis and Madagascar, it also includes much desert land, requiring enormous expenditure to reclaim and make profitable. This is also the case with much of the German area, about a million square miles in all, most of which is in the tropics. The share of England, estimated at about 2,000,000 square miles, includes a great part of the most promising regions—in South Africa and in the Great Lake region and the upper Nile countries. Portugal has about 500,000 square miles, and Italy about 340,000 miles. The Congo Free State contains about 1,000,000 miles.

Mr. Stanley is reported to have made a sensation in England by censuring British slowness in this respect, censure that seems highly ironical in view of the facts and figures cited above. In a speech in the London Guild Hall, he said:

I remember in 1878, in 1882, and in 1884 the scores of lectures I delivered endeavoring to rouse sympathy in England for Africa. If they were not read or listened to here, the Continent listened to them and acted. You might have had the Congo, which by this would have paid you 100 per cent.; but you shrugged your shoulders and called me a dreamer. The Bel-

gians took it, and now it is Belgium that is making 100 per cent. The English might have had East Africa, but their journalists see as through an opaque glass, and the Germans absorbed the lion's share, and the latter can not fail to win in the long run. The Germans have immense odds in their favor. They have a vigorous, wide-awake monarch. Wissmann never heard of such things as Quakerism, peace societies, protection combinations, anti-enterprise companies, and namby-pamby journalism—the clogs of every honest endeavor in this country. It would be impossible for men like Raleigh and Drake to live in this country nowadays, but in Germany there is ample room for them.

The treaty defining the boundaries between the spheres of influence of England and Germany was made public in July. The line on the north of the German sphere runs northwest from the mouth of the River Umba to Lake Jipé, where it curves, taking in the lake, and crossing the River Lumé passes between Taveita and Chagga and around the northern base of the Kilimanjaro range, thence it passes to the eastern shore of Victoria Nyanza at the first parallel of south latitude, and along that parallel to the Congo State, but not including Mount Mfumbiro; the western line passes along the Congo State frontier and Lake Tanganyika. From the mouth of the Kilambo it runs to where the Songwe enters Lake Nyassa and around the northern and eastern shores of the lake to the Portuguese line along the Rovuma. The British protectorate over the islands Zanzibar and Pemba is recognized. In all those African territories equal rights of settling or trading shall be conferred by the two powers on their subjects. The details of the frontier between Ngamiland and Damaraland remain to be settled, but it is agreed in latitude to take Ugami up as far as the eighteenth degree south latitude. The German frontier shall coincide with the twenty-first degree east longitude. In Tongaland the frontier is rectified, securing the mouth of the Volta to England and giving Germany access to the Volta river at the highest point of its course.

Increased activity is apparent on the part of the various nations in the way of opening up

their nominal territory and bringing it within actual knowledge and control by surveys and treaties with native tribes. The British East Africa Company is reported to have made a treaty with Mwanga, through one of its agents, who advanced with a caravan of 600 men, that places the whole of Uganda under its control. Mwanga's throne had been usurped by Karema, an ally of the Arabs, but was regained with British assistance.

On the part of Germany, Dr. Oscar Banmann's journey has had good results in surveys of Usambara. Emin Pasha has returned to his old ground. He was reported to have been recalled by Baron Wissmann, while pushing on to Wad-elai, lest there might be some violation of recent treaty obligations. But later dispatches are to the effect that Emin is to be governor of the western portion of German East Africa, including the lake territory, and Herr von Soden governor of the remainder, while Baron Wissmann will retire or be sent to settle affairs in West Africa.

The protectorate of Italy on the eastern coast has been somewhat extended; its colony on the Red Sea has received the official name Erythrea.

Differences have arisen in regard to the rights of England and Portugal in southeastern Africa. Dispatches in December reported that a Portuguese force had seized Mutacas Kraal at Manica, and hauling down the British flag had replaced it with the flag of Portugal, a move which was disowned by the Portuguese Government.

The French, notwithstanding their troubles with the natives, have extended their claims in the west, as will be seen from the report of Capt. Binger's expedition given below.

The Congo State also shares in the general additions of territory, if report be correct, since by a decree of June 10, 1890, it receives a new district, Koango Oriental, comprising the region east from the Koango to the Sankuru-Lubilash, that is, all of Lunda. This seems to conflict with the claims of Portugal, as Major Cavalho made a treaty in 1887 with the ruler of Lunda, and the claims on Lunda have been regarded as still unsettled. The great need of the State at present seems to be facilities for communication. In order to overcome the obstacles to travel between the coast and the interior presented by the cataracts of the Congo, the Belgians propose a road on the left bank from Matadi to Leopoldville. The French meanwhile are considering a road along the valley of the Kouilu-Niadi and the Djue which flows into the Congo near Brazzaville, as the best route from the coast. It offers difficulties, however, in the heights over which it leads, the altitude of the water-shed being estimated at 800 metres, and these difficulties may lead to a postponement of the undertaking, or possibly, to the uniting of the two enterprises in the Congo road.

An exploration of the northern Lomami made by M. Janssen, Governor-General of the Congo State, shows that it is navigable up to $4^{\circ} 27'$ south latitude, thus presenting an easier and quicker route to this great trade region than that by way of Stanley Falls. The governor established a station at Bana Kamba, under latitude 4° , from which point connection will be

made with Le Marinel's station on the Sankuru.

Expeditions for the opening of the interior of the Cameroons district have been undertaken by both the Germans and the French. The former, under Lieut. Morgen, have opened a way from Jeundo station to the coast along the Sannaga. The latter, under J. Cholet, administrator of Brazzaville, explored the Sannaga to $2^{\circ} 50'$ north latitude and 14° east longitude, (from P.), and its tributary, the N'Goko, as far as $3^{\circ} 30'$ north latitude and $12^{\circ} 30'$ east longitude, concluding many protective treaties along the route in the French interest. The Sannaga is described as a stream 1,200 to 1,800 metres in breadth, flowing into the Congo through several arms. The Misougo, flowing into it on its lower course is said to connect with the Ubangi. Its upper course is formed by the Masa and the N'Goko. Cholet's little steamer, the "Ballay," could not ascend the Masa, which though more than a kilometre in breadth, is obstructed by numerous islands, but the N'Goko was ascended until the low water and the rapids prevented farther progress.

A new examination of the upper course of the Mongala was made in April and May by M. Hodister, agent of the Society of the Upper Congo at Bangala. In two former voyages, from September to November, 1889, M. Hodister found that the Mongala extends much farther toward the north than appeared from the reports of Baert's journey in 1886, and has its source not far from the middle course of the Welle-Makua. It is formed by the rivers Ibaasa, Ebola, and Monai, the last a larger stream than the others; in its upper course it is called the Dua. Coming from the east it broadens in two places to lake-like basins. On his later trip, M. Hodister left his steamer at Libako and followed the Dua to the little lake Ababula, and then spent six days examining the Ebola. Both flow through thick forests.

From a report of Dr. Zintgraff's latest expedition in the interior of the Cameroons, which occupied the whole of 1889, we take the following:

It was not until New Year's Day, 1889, when Dr. Zintgraff appeared again among them [the people of Bangang, whose territory begins about 50 miles north-east of Barambi station on Elephant lake, and who had shown on former occasions a disposition to resist any attempted march through their lands], at the head of a caravan of 200 armed porters, and overcame their resistance after a sanguinary conflict, that the route to the northeast was opened; then a march of several days through dense virgin forest brought the expedition to the steep slopes of the West African tableland, where the open grass land begins. Their three months' stay with the powerful chief Karega, of the Balli tribe, who has at his disposal upward of 2,000 warriors, was a compulsory one, inasmuch as the crafty chief by friendly advances desired to make his country a kind of Capua for the porters of the expedition, hoping by this means to get them to desert the traveler on his projected march up the country. But this piece of trickery failed, and the march was resumed to the town of Bafut, which numbers about 12,000 inhabitants. The chief of this place, Gualim, had some time before the arrival of the expedition attacked and killed several Hausa traders, who had been staying with him for a considerable period. He endeavored to prepare a similar fate for the expedition, but being too much of a coward to have recourse to a regular open attack he set to work to ruin the ex-

pedition by furnishing them with guides who were to lead the party into uninhabited deserts where, wearied with hunger, they would fall an easy prey to the contemplated attack. Dr. Zin'graff, however, saw through this device, and conducted his people by a series of forced marches through the uninhabited wastes to the north, until at last, after four days' climbing over almost impassable paths, the first farm village or "ringi" of Mudi, an Adamaua village, was reached. After the great excitement consequent upon the unexpected arrival of a white man with so many armed followers had subsided, the march was resumed by way of Takum, Donga, (where the junction with Flegel's route was effected) and Watrari to Ibi. Here the River Niger Company gave the traveler a most friendly welcome. After four days' stay, Dr. Zin'graff traveled by way of Gashka to Iola, from there again *via* Gashka and Ashaku to Takum, whence he by an easterly route again arrived in the Bali country. At the beginning of January, 1890, he again found himself in the Cameroons, having been absent exactly one year. With regard to the orographical and hydrographical conditions of the formerly unknown portion of the region traversed, it may be said that the country from the Cameroons up to Barambi station rises only about 1,000 feet, and from there stretches away in gently undulating hills of about equal height up to the edge of the West African plateau. Here there is a sudden rise to 4,000 feet. Up to the country of the Bali the ground falls but little, and then slopes away to the northwest, particularly in South Adamaua. At Takum the traveler emerges from a mountain range which stretches from the northeast south of Jola; west of Takum extensive plains follow each other down to the Benue. The grass land in the Bali region is fairly hilly and treeless; only in the valleys of the water courses is bush country found. In other parts of the grass lands traversed, the savannah is characterized by small trees of about 20 feet high, stunted by the grass fires. These trees at times grow so thickly that they offer a welcome shade for the otherwise sun-scorched lands of Adamaua. With regard to the hydrography of the country, some changes are necessitated in the maps of the lower Niger territories. The river valley of the Calabar reaches in fact right up to the foot of the West African table-land. The Katsena-allah has not a northerly, but a distinctly northeasterly direction, and is separated from the Calabar by the border lands of the plateau regions. The mountain chains, which are mostly composed of crystalline slates, have a general run from southeast to northwest, with transversal valleys running north and south. The mountain outlines in the southern portion of this region are mostly roundish. But in Adamaua proper there is an abundance of sharp, jagged formations, and huge rock pyramids, cones, and crests projecting 300 feet above their surroundings continually meet the gaze. Alluvial iron ore is plentiful, and the iron industry among the Bali is in a highly developed condition. The country is poor in many places between Jola and Gashka, where the laterite and disintegrated quartz occupy extensive wastes, which vividly recall the lands bordering on the lower Congo. The interior of the Cameroons, like the whole coast region of West Africa is much poorer than East and South Africa, although not barren. The elephant is the chief characteristic of the country; antelopes are particularly numerous in the low lands of the Benue. Monkeys, and above all chimpanzees, are most plentiful in the deserts to the south of Takum, where the tracks made by them are often very similar to the native paths, and on many occasions led the expedition astray. The abundance of domestic animals in the interior, the great buffaloes, maned sheep, and fowls, stands in great contrast to the poor condition of the cattle-rearing industry in the West African coast regions, and the same can be said of Adamaua. There is no special distinction between the population of the primeval forest districts and that of the grass lands, although the latter is decidedly more developed and

freer; it is as if the boundlessness of the savannah reflected itself in the people inhabiting it. All the negro races in the interior of the Cameroons are fully medium-sized; indeed, among the Bali, for example, the traveler meets with well-proportioned herculean figures. While in the forest region and among the Bali clever *frisures* of the hair are customary, the men in Adamaua mostly have their heads clean shaven, while the women have a great preference for towering chignons. The Bali place great value upon oblong skulls and endeavor to shape the heads of newly born children accordingly—an ethnographical peculiarity which is very seldom met with in Africa.

The results of Capt. Binger's journey from the Niger to the Ivory Coast are summed up by Dr. Wichmann, in Petermann's "Mitteilungen." From his observations it appears that the supposed Kong mountains, which Mungo Park located under 11° north latitude and 3° to 4° west longitude, have no existence; but that the watershed, as in many other parts of Africa between large river systems, is formed by scarcely noticeable elevations of ground. A little to the east of the largest southerly branch of the Niger, the Baule, Capt. Binger crossed a small river running southward, which he takes to be the source of the Lahu, which enters the Gulf at the Ivory Coast, and two others, tributaries of the Akba or Comoë; so that the sources of the rivers flowing to the gulf, therefore, are three or four degrees farther north than has been heretofore supposed.

The city of Kong, or Pong, numbers 12,000 to 15,000 inhabitants, all Mohammedans, who, however, seem very tolerant, as would be expected of a commercial people accustomed to travel. It is a center for trade. All European articles are on sale in the markets; cowry shells and gold dust form the currency. The chief industries are cotton weaving and indigo dying; and horse breeding is largely carried on.

Passing northward, the traveler entered the region of the western tributaries of the Volta. He found that the system of this river extends considerably farther to the northwest than has been supposed; its western source, the Black Volta, lies near the sources of the Comoë. The disturbed state of the tribes in the country of Gurunsi and the suspicions of the ruler of Mossi compelled Capt. Binger to abandon his plan of extending his surveys far enough north to connect with those of Barth. Mossi is level and adapted for grain growing and cattle raising. Horses are raised, also, though the best come from Yatenga, on the border of Massina, but donkey raising is a flourishing business.

The whole country traversed eastward from the upper Niger has no mountain chains, but only isolated peaks, mostly of granite formation. In the western part of the region the culminating point is the Natinian Sikasso, 780 metres in height; several streams flow to the Niger from its northern side, and the Comoë has its source on the southern side. The eastern continuation of the high land forms the scarcely perceptible water-shed between the Comoë and the Black Volta. Toward the south the plateau gradually descends; here arise the rivers Lahu and Dabu which flow into the lagoon of Great Bassam. Among the isolated summits in the east is the lofty granite peak Komono, 1,450 metres high, which turns the Comoë from its easterly direc-

tion toward the south. From the Volta, which is surrounded by low hills, a great table-land extends from about 1,000 metres to Nauri, which lifts itself to a height of 1,800 metres southeast of Wagadugu. This mountain, the highest met with, is divided from the range of Gambaga by the valley of the eastern or White Volta, which rises farther east in Bussang. To the south the plateau descends quite rapidly to the Volta, the valley of which lies at a height of about 200 metres. Farther westward, the Black Volta has forced its way through the Fugula, 800 metres high, and is turned from a southerly to an easterly direction. Single peaks rise between the Volta and the Comoë. According to these data, the basin of the Niger is much smaller than by former estimates; for by far the greater portion of the region inclosed by its great bend is drained by the Comoë and the Volta.

Politically the journey was of great importance. Treaties were made with the kingdoms of Tieba, Kong, and Bonduku, and with smaller states, bringing them under French influence, so that the French protectorate now extends from the Senegal to the Ivory Coast, and opens a vast region to French commerce. Further, it gives an outlook toward a possible colonial empire for France in West Africa when a connection shall have been established between Algiers and the Niger country.

Dr. Hans Meyer, whose ascents of Mount Kilimanjaro in 1887 and 1888 were not completely successful, since he failed to reach the summit, made another ascent in the autumn of 1889 and reached the extreme crest of Kibo and the peaks of Mawenzi. He went to Marangu, accompanied by an experienced mountain climber, Ludwig Purtscheller, and a caravan of some sixty men with a large supply of camp equipments and food, and the force well organized for carrying regular supplies to the upper regions. Leaving the main portion of the caravan in camp at Marangu, in care of the young prince Mareale, whom he describes as the model of a prince, upright, frank, amiable, and modest, Dr. Meyer ascended with Herr Purtscheller and eight picked men through the primeval forest to a stream beyond, at an altitude of 9,200 feet. Leaving a camp there and climbing to the height of 14,270 feet, they prepared for the ascent to the summit, retaining from among their attendants only a Pangani negro, whose endurance and fidelity contributed largely to their success. Kibo, crowned with ice, rose 5,000 feet higher. A large rib of lava jutting to the southeast, and forming the southern boundary of the deepest of the eroded ravines on that side of the mountain, was chosen as the place of ascent, the plan being to climb up this lava ridge to the snow line, begin from its upper end the scramble over the mantle of ice, and reach by the shortest way the peak at the south of the mountain, which appeared to be the highest point.

This programme was carried out by means of a difficult march, with the aid of ice axes and alpine rope. It was found that there was no snow on Kibo, but what had appeared as such from below was the eroded surface of the ice cap which covered the lava slopes of the ancient volcano with a thickness of from 200 to 230 feet. Dr. Meyer's report continues:

Since there can exist no real reservoir for *neé*, owing to the asymmetrical slopes of the truncated cone that Kibo forms, the compacted sheet of ice which covers the whole of the upper portion of the mountain has nothing in common with the glacier formations of our Alps. The upper edge of the mountain affords a basis where the falling snow can accumulate. But it is only where the covering of ice is intersected by fissures and crevasses, and sends out tongues of ice—whether in consequence of the steep incline of the outer mantle of the cone, or else because of the existence of ravines—that these detached portions gain the appearance of a genuine glacier. In such cases the melting water flows out of their ends as running brooks. We now made our way across the crevasses of one of these real glaciers, the same that projects downward into the valley which we had traversed in the early morning, and took a rest under the shadow of an extremely steep protuberance of the ice wall at an altitude of 19,000 feet. . . .

A few more hasty steps in the most eager anticipation, and then the secret of Kibo lay unveiled before us. Taking in the whole of upper Kibo, the precipitous walls of a gigantic crater yawned beneath us. The first glance, however, told us that the most lofty elevation of Kibo lay to our left, on the southern brim of the crater, and consisted of three pinnacles of rock rising a few feet above the southern slopes of the mantle of ice. . . . We first reached the summit on the 6th of October. . . . An hour and a half's further ascent brought us to the foot of the three highest pinnacles, which we calmly and systematically climbed one after another. Although the state of the atmosphere and the physical strain of exertion remained the same as on the previous ascent, yet this time we felt far less exhausted, because our condition morally was so much more favorable. The central pinnacle reached a height of about 19,700 feet, overtopping the others by 50 or 60 feet. I was the first to tread, at half-past ten in the morning, the culminating peak. I planted a small German flag, which I had brought with me in my knapsack, upon the ragged lava summit and christened this, the loftiest spot in Africa, Kaiser Wilhelm's Peak.

Dr. Meyer describes the great crater of Kibo as in diameter about 6,500 feet, and sinking to 600 feet of depth. In the northern half the lava is covered with terraces of ice forming blue and white galleries of varying steepness. A rounded cone of eruption, partly covered with ice, rises in the north portion of the crater to a height of about 500 feet. The melting water flows off through a wide cleft in the western side, and the ice on the western part of the crater and the inner walls issues in the form of a glacier. The length of this glacier is over a mile and a half, the greater part lying inside the crater; its lower termination is at a height of 17,900 feet. The central peak of Mawenzi, the eastern summit of Kilimanjaro, was reached by three separate ascents. The lava rock has been so denuded as to cover the surface with a jagged mass of walls and crags. On the west it slopes gradually to the elevated saddle stretching over to Kibo; on the east it descends from an altitude of about 17,050 feet, with dizzy abruptness for some 6,500 feet, into a "huge ravined caldron of erosion, from which it continues down to the level of the plain, in far-reaching and symmetrical slopes, for another 8,200 feet." The lie of the lava strata and the fissures indicate that the former crater of Mawenzi lay southeast of the present summit; and its structure points to its having been, in its original form, as high if not considerably higher than the much more recent and better preserved Kibo. Several

other ascents of the two peaks were made on different sides.

On the northern side of Kibo, at a height of 18,700 feet, a two-tongued glacier was discovered, and also far out in the plain three long swampy lakes reaching to the large Nyiri marsh. The view of the mountain from the western side is thus described:

The mountain mass rises in a typical volcanic curve with such unbroken regularity from the southern plain, which lies at an elevation of 2,600 feet to the brim of Kibo, an altitude of 19,700 feet, that no single detail escapes a searching eye. While the intervening saddle hides the view of the base of the Kibo cone from Marangu and Moji in the southeast, an uninterrupted prospect is obtained from the west. The dark belt of the primeval forest extends here farther up the mountain while the brighter zone of grass lands above it is narrower, and almost touches the fringe of the ice mantle, which reaches from the summit to the base of the Kibo cone. This coat of icy mail, more than 6,000 feet in height, and about the same in breadth, adapts itself to the volcanic shape of the mountain and forms a spectacle probably not to be met with elsewhere on the earth's surface in similar grandeur.

To the west of this ice mantle Kibo is cloven from head to foot by a stupendous rift, with precipitous walls, down which the great crater on the summit pours an ice stream through its western cleft already mentioned, and which issues from its mouth as a compact glacier. This is the largest glacier on Kilimanjaro. From its end the most important water channel from the ice of Kibo, the Weruweri river, takes its rise, while from the sheet of ice on the southern face, the Ngombere stream, carries down the melted ice to the all-gathering waters of the Pangani.

On the southwestern side of Mawenzi flowers and grasses were found at an altitude of 15,750 feet, sheltered from the wind and watered by bubbling springs, and elks and antelopes were seen browsing on the young grass on the heights above the saddle of the mountain. The forest region on the south and east sides of the mountain fills the belt between 6,500 and 9,750 feet of altitude; on the north side of Mawenzi it forms only a narrow belt, broken in many places, and growing thinner toward the west it vanishes altogether on the northern side of Kibo. The success of the expedition was largely due to the perfect arrangements for supplies and the favorable season, October being the month when the summit is most clear, the atmospheric precipitations light, and the ice covering at its lowest.

Interest in the Stanley expedition has been maintained through the year, partly by the lecture tour of Mr. Stanley, but more in consequence of the personal controversies that have arisen over his accounts of the incidents of the journey, involving the conduct of the officers in charge of the rear column and the ability and influence of Emin Pasha as Governor of Equatoria. These controversies affect only the character of the explorers and their treatment of the natives, and have no place here, though the character of their relations with the natives may have an important influence on the future exploration and civilization of the interior of the continent.

In the "Annual Cyclopædia" for 1889 was given an account of Stanley's journey with details of the discoveries of the great forest, the supposed Mountains of the Moon, Lake Albert Edward, and the extension of the Victoria Nyanza.

To this may be added some particulars of his description of the pygmies of the great forest, from "Scribner's Magazine" for January, 1891.

Mr. Stanley says that intellectually the pygmies of the African forest are the equals of about 50 per cent. of the inhabitants of any great American city of to-day. He continues:

And yet there has been no change or progress of any kind among the pygmies of the forest since the time of Herodotus. As the bird has builded its nest, the bee its cell, and the ant its new colony, the pygmies have survived the lapse of twenty-three centuries, and have continued to build their beehive huts after the same skillless fashion as they built them in the days when Herodotus recited the story of his travels before the Council of Athens, 445 years before the birth of Christ. The reason of this is obvious from my point of view, which is, that the same causes which operated before the time of Herodotus to drive them out of their original lands continue to operate to-day to keep them in the low, degraded state they are now in.

Herodotus is credited with the discovery of the pygmies. In modern times Battel, Moffat, Livingstone, Schweinfurth, and Piaggia saw them. In his journey down the Congo in 1876 and 1877 Stanley captured one specimen. In 1881 and 1882 this explorer heard of the dwarfs from the natives who had evidently been familiar with them. But on his recent journey for the relief of Emin Pasha, Stanley traveled through the center of the region inhabited by the Wambutti dwarfs, captured about fifty of them of various ages, and had an excellent chance to study their characteristics. A section of the forest region situated between the Ihuru and Ituri rivers, about 30,000 square miles in extent, simply swarms with pygmies, according to Stanley. There are three distinct races in the forest. The aborigines who fell the woods, make clearings, and plant bananas and grain, are finely formed men and women of the ordinary standard. But they are head and shoulders above the tallest pygmies. The dwarfs, like ordinary humanity, vary considerably in height. Some are only 33 inches high, and the tallest of the unmixed specimens measured by Mr. Stanley would not exceed 4 feet 4 inches. Mr. Stanley says:

Their arms and ornaments were similar to those of the agricultural aborigines, and were evidently obtained from them in exchange for the produce of the forest, such as honey, furs of monkeys and baboons, antelope and leopard skins, and feathers, especially the red tail feathers of the gray parrot, and for the dried meats of such animals as they trapped or speared. . . . Nomad tribes of pygmies are often by pinching necessity compelled to feed on a diet which would be poisonous, or would be utterly nauseous to men bred upon grain and vegetables. The snails, tortoises, squirrels, mice, civets, ichneumons, snakes, large and small—caterpillars, white ants, crickets, grasshoppers, monkeys, chimpanzees, leopards, wild cats, wart hogs, crocodiles, iguanas, lizards, antelopes, buffaloes, and elephants form a considerable variety for communities that are not too fastidious as to what they eat; and our experience of the pygmies leads me to believe that they relish each and all equally. . . . Such people as these, then, would have no hesitation to add human meat to their fare. It is a current fact everywhere through the forest region, and I am forced to believe it, although I have never seen the cannibals indulging in their repasts. The graves of our dead have been opened, and the bodies have been exhumed. Members of our expedition have been slain, and their bodies have been carved and carried

away by the slayers; and one day we scattered a banqueting party who had just bled a woman in the neck, laid her out, and washed her. There were pots close by; there were also bunches of bananas; and the woman belonged to a hostile band. The inference is obvious; and any one of our band of whites could furnish much circumstantial evidence of this kind. As the pygmies appear to have no earthly duties beyond providing for the necessities of the day, there is not the slightest doubt that a slain foe would be eaten. When we asked our captives whether they had ever indulged their depraved appetites by eating human meat, they always stoutly denied it, but accused their neighbors of doing so.

The pygmies neither hoe, plant, nor manufacture. Everything they have was acquired by purchase or theft. Their weapons consist of a small barbed spear, a short bow with a quiver full of wooden- or iron-pointed arrows, a dagger, and a small double-edged knife attached by a string. The bow is of tough red-wood, and the string is a broad polished strip of rattan fiber. Sometimes the bow is run into a raw monkey-tail, which, on drying, gives greater strength. The arrows are from 18 to 22 inches long. Mr. Stanley says:

If of wood, each is of the thickness of a lead pencil, filed to a long, fine point, which is ringed with small cuts for 3 inches from the end. These cuts serve to retain the poison with which the arrows are smeared. If the arrows are pointed with iron, the blades are of exquisite fineness, as of a razor blade, with two or several prongs extending outward, and attached to delicate little barrels of polished iron, into which the heads of the arrow shafts are run. The arrow blades have also grooves made in them which serve to secure the poison as they are put into or drawn out of the quiver. The quiver is a long, narrow bag made of antelope-goat hide, and can contain quite 100 of these deadly arrows.

Stanley says that when his men first encountered the pygmies armed with these little arrows they regarded them with contempt:

The wounds made were mere punctures, such as might have been made by finely pointed butchers' skewers, and being exceedingly ignorant of the effect, we contented ourselves with syringing them with warm water and dressing them with bandages. In no instance was this method of any avail. All who were wounded either died after terrible sufferings from tetanus, or developed such dreadful gangrenous tumors as to incapacitate them from duty for long periods, or wreck their constitutions so completely by blood-poisoning that their lives became a burden to them.

It was a long time before an antidote could be found for this poison, but after hypodermic injections of carbonate of ammonium in the neighborhood of the wounds were tried, losses of life were much less.

In reference to the pastoral land and its tribes, Mr. Stanley said, in an address before the Royal Geographical Society:

In equatorial Africa the pasture land adapted for cattle generally begins at an altitude 3,200 feet above the sea; but the best and most nourishing grasses are found above 4,000 feet. The forest ends completely at 3,500 feet, and the land soon afterward varies from 4,000 to 6,000, and extends in a belt parallel with the Albert lake and between the lakes Victoria and Tanganyika down to Ukavendi, and from Abyssinia and east of the Victoria, down to the Rufiji. In the intra-lake region are the nations of Ankori, Uganda, Unyoro, Karagwe, Mpororo, Ihangiro, Uhaiya, Uzon-gora, Uzinja, Ruanda, Urundi, Uhha, and Unyam-

wezi. On the grassy plateau, parallel with Lake Albert, we found quite a mixed race, called the Bavira, Balega, and Waluma. The latter named differ as much in their physiognomy, customs, and characteristics from the other two as an octoroon differs from a negro. The Waluma are very numerous in Unyoro and Uganda, throughout the intra-lake region, especially in Ankori. Their sole occupation is keeping cattle. As you proceed further south and reach Unyamwezi, the Waluma become known as Watusi. In Unyoro they are known as Waina and Wachwezi; among the Bavira and Balega they are called Wawitu; but all the Waluma, Wachwezi, Wawitu, and Watusi speak the same language; therefore we class them under the generic term Waluma. They are distinguished from among the agricultural classes, with whom they live as herdsmen, by their complexion, length of limbs, small head and ears, long, slender hands and feet, and regular features. Among the purest families these distinctions are very marked, the complexion being frequently like the color of yellow ivory. They do not hesitate to tell us disdainfully that they are not hoemen if we seek to purchase grain or potatoes from them. The produce of their dairies suffices, with a few hides, to purchase all the vegetable food they need. They will live among the hoemen and allow their cattle to graze on the pasture in the land, but will build their huts and *ceribus* separate, and apart altogether from the villages of the other class; they will employ female servants, or own female slaves, but they will not cohabit with them. And the Waluma race grow side by side with the darker agricultural class without taint by preserving their customs intact. Whosoever they obtained the idea, they believe that the other class is infinitely below them; and absolute destruction of their communities and disruption of their families will not induce them, except on very rare occasions, to mingle their blood with any of the agricultural class. But yet, as we proceed further south, we find that at some time there has been an admixture of the two races, which has produced a composite race which unites the characteristics of both the superior and inferior race, and who are both agriculturists and herdsmen combined, as in Europe. It has been a subject of engrossing interest to me to discover why I find among a nation in the far interior pure negroes, a composite of the Waluma and negroes, and the pure Waluma. I am about to give you the deductions drawn from about 24,000 miles of travel in Abyssinia, Ashantee, the Livingstone search, across Africa, two expeditions up the Congo, the explorations of certain tracts on the east coast and elsewhere, with this last expedition for the quest and rescue of Emin.

Probably many of you have had an idea that the Africans are all negroes, and I feel sure that if the various types of Africans were suddenly presented to you on this platform you would still be ready to affirm that they were negroes; but you must permit me to say that you would commit a grave error.

I have already spoken to you of one race inhabiting that great equatorial forest, the pygmies, who are a diminutive negro race, despite the fact that they are divided into two distinct types—the dark, round-headed, prognathous-jawed, and a lighter, round-headed, broad-faced type. You also know the true negro of West and Southeast Africa, characterized by woolly hair, expanded nose, and sunken nasal ridge, full, everted lips, and exceeding prognathia. You also know the tall, war-like Zulu and Caffre, who are not pure negroes, but negroid. You must accept them as types of the composite race I just spoke to you about.

Next comes the Mhuma, and if you wish a rough and ready picture of him you must imagine a traditional lanky New Englander, darkened with burned cork, with a negroid wig; or plant a Zulu and a Hindu before you and produce an Indo-African type out of the compound—features regular, hair curly but silky, small round head, shapely neck, small thin lips, small ears, slender hands and feet, tall, and perfect in figure from the knees upward. That is the

representative of the Wabuma, who disdains the use of the hoe, and despises the planter and the sower and will not intermarry with the negro and commit the awful crime of miscegenation any more than the proud Virginian in America. They came from Abyssinia a long time ago. They resemble the Abyssinian Somalis and Gallas. You may call them as you will Abyssinian or Ethiopic, but the comprehensive philosophic term would be Indo-African.

A fifth race is represented by the Semitic Africans, who are to be found principally among the Mahdists to-day at Darfour, Kordofan, and Dongola; and a sixth race is found among the Berberines, as represented by the Tuaregs and Bedawy of Northwest Africa.

We must be satisfied for the present with concluding that the pygmies and the negroes are the primitive races of Africa; that Ethiopia in prehistoric times was invaded by various migrants from the great Aryan race; that as they multiplied they scattered southward and mixed with the negro tribes, and produced that composite race represented by the Zulus, Caffres, Bechuannas, Matabeles, Matitte, Watuta, and Wanyanwezi. A later movement conveyed tribes having peculiar customs, who, finding the intra-lake region best adapted for their cattle, clung to the land and its rich pasture, indifferent to the fate of the tribes or natives employed in tilling the ground, and their cannish descendants are the Indo-African Wabuma.

Asia.—The Russian expedition to central Asia, first led by Gen. Prjevalsky, has been continued since his death under the leadership of Col. Pievsoff. After wintering in 1889-'90 at Nia, in Turkistan, he started in April to push forward into Tibet through the pass Idjeli-Khanum, intending to pass the summer on the plateau and descending in September to travel by way of the Cherechen river to Lob-Nor. Another expedition in the same region is that of Capt. Grombchevsky. He began a journey in the Kuen-Lun ranges in July, 1889, intending to cross the Hindu-Kush and enter Kanjut and Kafiristan. In this attempt he was frustrated by Afghan troops. In October he was in the valley of the Dangman-hash or Taghdumbash-Pamir, and passed along the valley of the Uprang to the Muz, a river not before known; it rises among the glaciers of Mustagh, flows northwest, then northeast, and into the Raskem-daria, not far from Chun-takai. In the valley of the latter river, which has been kept desolate for eighty or ninety years by the inroads of the Kanjuti, he went up to Kara-Dshar-Karaul, making an excursion along the tributary Surkowat. On the southern declivity of the pass Aghil-dawan he reached one of the sources of the Uprang. Here his route fell in with that of Lieut. Younghusband, in 1887. Passing northward he crossed the Raskem mountains and located the water divide between the Raskem-daria, the Khotan-daria, and the Tisuaf, the last a hitherto unknown stream. Continuing the route, he crossed the Raskem mountains for the third time at the end of November. Reaching the Karakash, the upper course of the Khotan-daria, and following it up, he again crossed the mountains at the Kawak Pass, and reached the source of the Raskem-daria with the thermometer at -35° C. But a single day's journey from the Karakorum Pass, he was obliged to turn back for fear of losing his whole caravan by the extreme cold. Turning to the southeast and following the Karakash, he reached the high, sandy table-land and the mountains dividing it from the head-waters

of the Yurang-kash. The ridges are more than 16,500 feet in height, the cold was intense, and the violence of the winds extreme. After losing 25 of his 33 horses, Grombchevsky was obliged to quit the table-land without visiting the mines once worked by the Chinese in the immediate vicinity, and he therefore set out for Nia to join the Pievsoff expedition in its winter quarters. At Surkhan he found 3,000 Chinese working for gold.

He says the Kanjuti, who are indefatigable and merciless brigands, have laid waste the whole valley of the Raskem-daria; traces of habitations prove that the region was formerly well populated. The mountains are destitute of vegetation in consequence of the extreme dryness of the air, but in some parts of the valley there are oases covered with dense brushwood, impenetrable even with axe in hand. In order to cross these districts the few Kirghises who ventured across from the Taghdumbash-Pamir to Shahidulla set fire to the vegetation, forcing the wolves, foxes, wild asses, and other animals to retreat before them. Capt. Grombchevsky says that a small band of the brigands were in hiding to waylay Lieut. Younghusband's caravan, but were afraid to take the risks of an attack. He made a topographical survey of his journey of about 700 miles, and determined several latitudes in the valley of the Raskem-daria and on the rivers Muz, Karakash, and Yurang-kash.

One of the most noteworthy journeys in Tibet is that of Prince Henry of Orleans and his companion, M. Bonvalot. They set out more than a year ago from Russia and passed through Siberia and China. But their most important experiences were in Tibet.

While looking toward Batang [says M. Bonvalot] I cast secret glances at Lhasa and especially at the lofty unexplored table-lands of Tibet. Prjevalsky, the Russian, and Carey, the Englishman, were the first and the last since the day of Fathers Huc and Gabet who have attempted to visit these unknown regions. A perusal of their narratives had convinced me that the difficulties they had had to surmount were nothing new or uncommon to me. Upon one occasion Prjevalsky had to turn back for want of money; upon another because he was attacked; upon a third for want of a guide; and then, again, because of threats addressed to him from Lhasa. Except upon the shore of the "lake which never freezes," he had followed the caravan routes and that taken by Fathers Huc and Gabet, making toward the Mourousou or upper Yangtse. Carey had followed for several days a fresh route leading from Tcharkalik (at the further end of the Lob-Nor) toward Bogalik and the Tsaidam. Various reasons had led him to retrace his steps toward the north, but, as he says in his narrative, "I had not recognized that it was impossible to advance in a southerly direction." I was firmly resolved to avoid the errors into which these two travelers fell. Both had run short, at a given moment, of provisions, guides—and prudence. So we had to carry with us ample provisions for man and beast, and then forget the dictates of prudence. So we left the Lob-Nor with about six months' provisions of food, and ready to run any sort of risk. It is said that to venture is to succeed; we have ventured, and we have succeeded.

The travelers made their way, on the vast plateaus of Tibet, across a thousand miles of desert, at an altitude varying from 13,000 feet to 19,000 feet, and reached the south of Lake Tengri-Nor, which is only a day's journey on horse-

back from Lhassa. They then made eastward by a new route, and it was only at Tchang-cha that they rejoined the main route formerly followed by the French missionaries.

From Tehang-cha [says M. Bonvalot] we went to Batang, and by Li-Tang to Ta-Tsien-Lou, where we fell in with some compatriots. Altogether we have traveled about 1,500 miles in an unknown region, nearly half of the way without a guide. It is true that we have had a terrible winter, the quicksilver freezing, and we have been assailed by terrible storms which took our breath away, which blinded us, and which made it still more trying to walk at so great an altitude. We can still hear in our ears the howling of the wind which blew from the west, and we can feel in tanev the sand being dashed up against our hoods. Such were the conditions under which we had to seek our way; at times we could not distinguish a man ten yards in front of us; sometimes we could not even open our eyes; so it is not surprising if we lost some of our men and cattle and were in a constant state of apprehension. The only combustible we had was the droppings of the wild yaks, and no water. For a period of two months we made our tea with ice, which was generally dirty and mixed with sand and earth, so that a bit of pure ice was a great treat, and we filled our bags with it whenever the opportunity offered. For we marched more or less at haphazard, and had to take a provision of ice and yak's droppings enough to last several days. After a long day's march we often had to wait hours and hours for our tea, as the yak's droppings—argol, as Father Huc calls it—would not burn properly.

Our beasts of burden—camels and horses alike—were decimated, or, to speak more accurately, every one died of fatigue, thirst, and hunger. The snow was swept off by the wind, and the animals had nothing to drink. Upon the other hand, we had not enough combustible or lime to melt the ice for them, even when we happened to be near a frozen pool. Twice we had hot springs close to our camp, and the horses which slaked their thirst at them died on the following day from overdrinking themselves. One of the camel drivers, robust as he seemed, died of what is known as the mountain complaint, his face being tuffed, after bleeding a good deal at the nose. Two days before reaching lake Tengri-Nor we buried a second camp follower, whose toes were frozen off, and who died one night while the wolves were howling around our bivouac. It was time that we should get back among our fellow-men, for most of us could not have gone another week. After some long negotiations with the authorities of Lhassa, we obtained what horses and yaks we required and made eastward, keeping to the north of the high road from Lhassa to Batang.

We lived up on the table-land of Tibet, amid a chaos of mountains; and we traversed numberless passes so high that one seemed to be mounting up to heaven, there being one chain after another, with summit overtopping summit. Below, in the plain, were white surfaces which might have been taken for lakes, and which were merely salt or frozen pools, over which we made short cuts, or else vast sheets of water lashed by a westerly wind, and so salt that even a polar cold could not congeal them. The only inhabitants of these deserts were herds of antelopes, vast troops of yaks, a few crows, and native birds. Some days we saw nothing, not even the crows, which follow the caravans as a shark does a ship, the solitude being almost overwhelming, so that after a few days of it our men were on the lookout for some human form, just as the shipwrecked men look for a sail upon the ocean. They were in high glee when they thought that they could see a horseman, a pedestrian, or a horse even, but when these proved to be optical delusions they became gloomier than ever.

Two brothers, MM. Grun-Grifmailo, in a journey of exploration to the eastern Thian-Shan,

discovered near the head-waters of the Khorgos a great mountain with six peaks, called Doess-meghene-ora. Its greatest height they estimate at about 6,000 metres or 19,680 feet. According to their observations, the northern side of the mountains is very incorrectly laid down on the best maps. The pass Kiityka does not exist; the Mengete Pass leads from the basin of the Kash into that of the Shusta, whence the road turns not northward, but to the southeast, joins the road coming from the winter pass Ulan-ussu up to the pass of the Keldyn, and then leads to the Julius, or Sullus. To the north is the great mountain spoken of above, Doess-meghene-ora. The view of its six peaks from one of the summits of the Manas mountains is sublime. They can not be seen from the Kash or the Julius, being hidden by the Keldyn mountains. The masses of snow are astonishing, but the glaciers are inconsiderable, owing to the steepness of the walls of the mountains. Along Athal-Urumtshi the Thian-Shan forms an inaccessible wall, crowned with almost uninterrupted masses of snow. The expedition visited some coal mines, and there were ravines, sending from clefts and openings a vapor or smoke with the peculiar odor of stone coal and everywhere incrustations and crystals of sulphur. Nearly all the rivers of the Thian-Shan carry gold, which is taken also from all old channels of the rivers, but not from other deposits or veins of quartz. These mountains are rich in large vertebrates, but much poorer than the Pamir in birds and insects.

The Karambar Sar, or Gazkul lake, in the Hindu-Kush, has been supposed to have two outlets, one flowing to the Yarkhun or Mastaj valley, the other to the Gilgit river. It is now found by M. Dauvergne, a French manufacturer residing in Cashmere, that there are two independent lakes separated by a low-water divide. From the smaller, half a mile long, flows the Yarkhun, and from the Karambar Sar, a mile and a half long, farther east, issues the Karambar or Ashkaman, a tributary of the Gilgit.

Other changes in the map of Asia caused by recent explorations and surveys are the straightening of the course of the Sangpo, the giving it a more southeasterly direction, and assigning to it much of the supposed drainage of the Zyul Chu. It is also found that the Mugodjar mountains are a continuation of the Ural, although separated from them by a depression six miles in breadth. Their highest point is Mount Airuk, 1,970 feet high.

Much new information has come from the journey of Otto Herz by sleigh across Siberia in 1888-'90, under the direction of the Russian Government. Near Vilynsk Mr. Herz made some important discoveries. Minerals of great rarity and value and precious stones which had never before been found in the region turned up on all sides in large quantities. Opals of exceptional beauty were also found in the immediate vicinity of the river. The explorations in the Vilyui country were exceedingly laborious. Often impenetrable masses of underbrush and tangled saplings completely blocked the way, so that a halt had to be called while a company of natives hewed a narrow path for the rest of the party. Most of the country thus examined had not been trodden by a European since the explorations

there in 1864 of Baron Meitel, one of Mr. Herz's two predecessors in this region.

Eight miles from Klutchefskoi [said Mr. Herz] is the Klutchefskaya volcano, 15,760 feet in height. Tremendous clouds of smoke are puffed up from it constantly. Its twin peak, Uschkinskaya, is 12,880 feet high. We undertook the ascent of the big mountain, and, curiously enough, we tried it in sleighs. We managed to get up about 6,000 feet in this fashion, and there left the sleigh, to go about 2,000 feet higher to the saddle formed by the junction of the two volcanoes. From that point I saw a magnificent view, one that no other traveler from foreign lands had ever looked upon. To the northeast was the Klutchefskaya, to the southeast the Uschkinskaya, to the south a third active volcano. Tolbatschinskaya, 8,300 feet above the sea level, and in the very far distance just a glimpse of the Behring Sea. To the north, thirty miles off, there was in sight a fourth active volcano, Schivelitsch, 11,000 feet high, which in 1854, by an unparalleled eruption, laid waste the country for 250 miles around. The ascent to the saddle occupied two days and a half, while the descent was made in four hours and thirty minutes.

Mr. Herz left Klutchefskoi on April 17, and on Sunday, ten days later, arrived at his destination, Petropaulovski, after having covered, according to his calculation, 15,000 kilometres, or about 9,000 miles, since his departure from St. Petersburg.

Australia and Islands.—Mr. A. Weston led a party from Cairns in June, 1889, for an exploration of the Bellenden Kerr hills, in the northeastern part of Queensland. The highest point of the range, Center Peak, was found to be 5,240 feet in height; it thus ranks second among the mountains of Queensland, the height of Mount Lindsay, near the southern border, having been determined by the Norwegian explorer Borchgrevink to be 5,711 feet. Mount Bartle Frere was found to be 5,000 feet in height. This is the first excursion sent out in Queensland for exclusively scientific purposes. The explorer has made an attempt to learn and preserve the native names of the places visited, and makes the very sensible suggestion that these names be used in preference to the unmeaning repetition of the same English names that appear in all the British possessions.

Sir Thomas Elder, who has furnished the means for three expeditions of discovery into the interior of Australia, is making preparations for another, this time to explore the territory north and northwest of Lake Amadeus, where it is supposed that great reaches of pasture land can be opened up for use. In a journey to this lake, Mr. W. H. Tietkins "succeeded in defining its western boundary, which he found to lie near Mount Unapproachable of Giles. The western end, for a distance of 20 miles, was found to be nowhere more than five miles in width."

It is reported that traces have been recently found of the Leichhardt expedition, which was lost in western Australia forty-two years ago. Some natives in the neighborhood of Lagrange Bay, in the Kimberley district, reported to Alexander M'Phee, who has learned their language, that a white man called Tun-Gun was living with a native tribe many days' journey to the southeast. Taking some of them with him, he sought out Tun-Gun, who, though light-colored, was of genuine Australian type, and took him to Melbourne. The old men of the tribe to

which he belongs told Mr. M'Phee of the fate of an expedition of white men, which they had learned from a neighboring tribe. It was to the effect that two white men and two clothed black men had come long ago from the northeast on horseback, and had perished for want of water. The horses had died first; then the white men, after desperate efforts in all directions to find water. Tun-Gun's tribe had seen them pass through on their horses, and afterward found the corpses of the white men. The region is almost destitute of water, though there are isolated places among the rocks where a little may be found, but hardly without help from the natives. It was further reported that the other tribe still held an axe that had belonged to the party, and some bones, fragments of the harness, and other relics. Steps have been taken by the Melbourne Society to verify these statements if possible, recover the relics, and erect a pyramid of stone over the place where the explorers lost their lives. Leichhardt crossed the continent forty years ago, without camels and with a very poorly equipped expedition.

The highest peak of the Owen Stanley range in New Guinea has been known as Mount Owen Stanley. It was described by Mr. Forbes, who named the highest of several nearly equal pinnacles at its summit Huxley Peak, and the others Mount Walker, Abercromby Peak, Wharton Summit, and Coutts-Trotter Crag. He did not ascend the mountain, but took observations and described it as "a gigantic isolated pyramidal block culminating in several acuminate rugged central peaks and pinnacles." Recently the mountain was ascended by the Administrator of British New Guinea, who, as might, perhaps, have been expected, proceeded to rechristen it with a royal name, calling it Mount Victoria. He could not distinguish any one of its peaks as higher than the rest, and gives a different description of the general appearance of the mountain, a difference easily accounted for by the difference in the point of view. The height of the mountain is given at 13,121 feet, a little less than former estimates. The Stanley range ends abruptly with this mountain, not being connected with the points to the southeast. The waters from the northwestern slope flow toward the northern coast, but the mouth of the river that receives them could not be distinguished. Between Mount Owen Stanley and the northern coast are lofty chains whose summits nearly reach an equal height. From the southern slope the Vanapa river flows away to Redscar Bay, northwest of Port Moresby. The upper course of Fly river was examined by the Administrator; its sources appeared to be on German territory. Exploring the Mai-Fussa, he saw to the west, 30 miles from the boundary line, a large stream, which he followed up for 120 miles, finding its source to be only 7 miles from the upper course of the Fly.

The Macquaria group of islands, taken possession of by the Government of New Zealand in 1889, has been officially declared a dependence of the colony of Tasmania.

Captain H. Dreyer, of the German schooner "Neptune," has reported the discovery of a group of seven small islands northward from Sunday island of the Kermadec group. Three

of them are connected together by low land. The elevation of the highest was estimated at 600 feet.

Europe.—It is proposed to increase the commercial facilities of the United Kingdom by the building of a large ship canal through Scotland, from west to east, which will be better adapted to the conditions of to-day than the Caledonian and the Forth and Clyde canals. The new Forth and Clyde Canal is designed to be about 30 feet deep and 72 feet in breadth. It is to start from Alloa, near the mouth of the Forth, and, using in part the river channel, take its course to Loch Lomond, reaching it by a tunnel 2½ miles in length. Three routes are under consideration for the remainder of the course—first, out of the northern part of the lake from Tarbet to Loch Long, an arm of the Firth of Clyde; second, by the enlargement of the Leven, the outlet to the Clyde; third, from the southern part of the lake, from Arden to Ardmore Head, at the mouth of the Clyde. As Loch Lomond lies 22 feet above the sea, a lock would be required on each side. The estimated cost is £8,000,000.

America.—Lieut. Seton-Karr, sent by the London Geographical Society to examine the borderlands of Alaska and British America, has found that Altschik river flows into Dry Bay, and not into the Yukon, as has been supposed. Setting out from the Chilkat, he followed its upper course to the mouth of the Klathena, or Wellesley, then crossed the water-shed and made a dangerous voyage on the Altschik, which abounds in rapids. A tributary of considerable size comes from the north, probably from Mount St. Elias.

Some facts of interest have been discovered by the gentlemen sent to Alaska in the summer by the National Geographical Society at Washington. Prof. J. C. Russell examined the glaciers, discovering among others the great Hubbard glacier, at Disenchantment Bay. Mr. Kerr took trigonometrical measurements of the highest peaks of the region and determined their exact positions. He found that Mount St. Elias does, after all, stand on United States territory, and that its height and those of neighboring peaks have been overestimated. By Mr. Dall's measurement in 1869, the height of Mount St. Elias was rated at 19,500 feet; the present measurement makes it only 13,500 feet. If this is correct, Mount St. Elias no longer holds the rank of highest point in North America, but is exceeded by Mount Wrangell, if the present estimate of the height of that peak proves to be correct, and Mount Orizaba, the latest measurement of which gives its height at 17,879 feet. Mount Cook was found to be 10,250 feet instead of 16,000 feet, and Mount Vancouver 9,400 feet instead of 13,100 feet. The earliest measurement of Mount St. Elias by La Pérouse, in 1786, gave it 12,661 feet.

In a paper read before the Field Naturalists' Club of Ottawa, Dr. G. M. Dawson, of the Canadian Geographical Survey, gave the boundaries and extent of the areas still remaining unexplored in Canada, as follows: 1. 9,500 square miles between the eastern boundary of Alaska, the Porcupine river, and the Arctic coast, an area somewhat smaller than Belgium, and wholly within the arctic circle. 2. 32,000 square miles,

somewhat larger than Ireland, west of the Lewes and Yukon rivers, and extending to the boundary of Alaska. 3. 27,000 square miles, nearly equal to the area of Scotland, between the Lewes, Pelly, and Stikine rivers, and to the east of the coast ranges. 4. An area of 100,000 square miles between the Pelly and Mackenzie rivers, about twice the size of England, including nearly 600 miles in length of the main Rocky mountain range. 5. 50,000 square miles, about equal to the area of England, between Great Bear lake and the Arctic coast, and nearly all north of the Arctic circle. 6. 35,000 square miles, more than the area of Portugal, between Great Bear lake, the Mackenzie, and the western part of Great Slave lake. This region was partly traversed by Abbé Petitot. 7. 81,000 square miles, more than twice the size of Newfoundland, between Stikine and Liard rivers to the north, and Skeena and Peace rivers to the south. This includes a portion of the western Cordillera, and, between the Liard and Peace rivers, a large tract of the interior plateau region of the continent, parts of which, there is reason to believe, consist of good agricultural land. 8. 7,500 square miles, about half the size of Switzerland, between Peace, Athabasca, and Loon rivers. 9. 35,000 square miles, equal to the area of Portugal, southeast of Athabasca lake. 10. 7,500 square miles east of the Coppermine and west of Bathurst inlet, half as large as Switzerland. 11. 31,000 square miles, about equal in extent to Ireland, between the Arctic coast and Back's river. 12. 178,000 square miles, much larger than Great Britain and Ireland, surrounded by Back's river, Great Slave lake, Athabasca lake, Hatcher and Reindeer lakes, Churchill river, and the west coast of Hudson Bay. The lakes and rivers shown in this great region depend entirely on the result of the three journeys made by Hearne in 1769-72. 13. Area of 22,000 square miles, more than Nova Scotia, between Severn and Attawapishkat rivers and the coast of Hudson Bay. 14. 15,000 square miles, about half the size of Scotland, between Trout lake, Lac Seul, and the Albany river. 15. 35,000 square miles, about equal to Portugal, to the south and east of James Bay. 16. 289,000 square miles, almost the entire interior of the Labrador peninsula or Northeast Territory, though several lines of exploration and survey have been carried for a certain distance into the interior of the peninsula. This area is more than equal to twice the area of Great Britain and Ireland with the addition of that of Newfoundland. To sum up, while the entire area of the Dominion is placed at 3,470,257 square miles, about 954,000 square miles, not including the detached Arctic lands, remains unexplored.

An expedition under Angelo Heilprin left New York, on Feb. 15, to explore Yucatan, the expense to be defrayed by the Academy of Sciences in Philadelphia. Prof. Heilprin says that a month was spent in examination of the peninsula, which was found not to be a coral reef. A visit to the plateau of Mexico, with measurements of the highest mountains, gave somewhat different results from those of former measurements. Orizaba, or Citlaltépetl, the highest, estimated at 17,879 feet, he places at 18,205; Popocatepetl, estimated at 17,734, at 17,523; Iztacc-

huatl at 16,960; Nevada de Toluca, heretofore placed at 15,000 feet, he makes 14,954. The city of Mexico is found by the surveys for railroad purposes to be 123 feet lower than the old estimate of 7,470 feet, used as a basis for trigonometrical measurement.

The Peruvian Government sent out an expedition to the Javary, the first object of which was to punish the Indians for murders; but, as it is accompanied by Richard Payer and four other scientists, it will probably have some scientific as well as military results. Payer reported that the Tyrol colony of Pozuzo seems to be prospering at last; through the efforts of the former French consul at Lima, French capital has been secured for an enterprise having for its object the buying up of all the cocoa in the colony and the extracting of the raw cocaine for shipping to European markets.

Captain John Page's expedition up the Pilcomayo, an account of which was given in the "Annual Cyclopaedia" for 1889, has met with disaster. The object was to find whether the Pilcomayo and Vermejo would serve as water ways between the centers of population on the Plata and in Bolivia. After ascending the river for some distance and overcoming the great obstacles to navigation, they ran out of provisions, and had to support themselves by hunting and fishing while suffering attacks by Indians. The military guard returned, worn out with hunger and fatigue; the rest of the party pressed forward and reached the swamp Patino in south latitude 22°. Supplies were sent for from the mouth of the river, but before they arrived Capt. Page was dead.

Arctic Regions.—Dr. Nansen, the explorer of Greenland, has in hand a plan for another expedition, the objective point of which is the north pole. He designs to take his route through Behring strait, and direct his course toward the New Siberian isles, whence he will be guided by the current, which he believes will take him to the open Polar Sea. He will have a ship of peculiar construction, which can not be pressed to pieces by the ice, but will be raised by the pressure. The voyage will not begin till the spring of 1892. The Norwegian Storting have voted 200,000 kroner, (\$35,000) toward the expenses. The grounds for his choice of the route through Behring strait are very clearly given in an article by J. Asmussen in Petermann's "Mittheilungen," from which we translate the following:

As is known, three routes have been tried by which to reach the pole: First, that northward along the western coast of Greenland, taken by the English expedition under Nares and Stephenson, by which, on May 12, 1876, they reached on a sledge journey 83° 30', the highest till Greely's men reached 83° 24' in 1882. They became convinced that it would be possible to penetrate farther north only under the most favorable conditions and impossible to reach the pole. The second route is east of Greenland and then northward from Spitzbergen, by which route Parry arrived at 82° 45' in July, 1827, but where of recent years the ice conditions have been so unfavorable as to make this route impracticable. The third is from Novaya Zemlya to Franz Josef Land, discovered by the Payer-Weyprecht expedition, and thence northward. The highest point by this route was reached April 2, 1874, at 82° 5', but the condition of the ice here also is unfavorable to further progress. Nansen believes that none of these three routes will lead to the pole.

In view of these facts it has been believed that the expectation of reaching the pole by water must be abandoned and a route sought overland by means of sledges with dogs or reindeer. Nansen's Greenland journey has demonstrated the feasibility of land travel when sufficient provision is made for food and clothing; but he himself has no confidence in the possibility of a land journey. He does not believe that the continent or a large island, as Greenland, extends as far as the pole. The sledge boats which could be used on land would not answer for a voyage through the sea, neither could the draught animals be taken into them. Therefore, if the expedition should reach the open sea, it would meet the alternative either to turn back or to leave the animals behind, thus cutting itself off from return, with the danger of falling a prey to starvation. Moreover, a considerable caravan would be required to carry a sufficient quantity of provisions and other necessities, especially if *caches* are to be provided to which the expedition may return. Still another objection to a land expedition is that it would be difficult to find in case anxiety is aroused in regard to it. It is impossible to foresee what route it might be forced to take by the condition of the ice. This, to be sure, would be to some extent the case with a journey by water; but the currents of the sea and the conditions of the ice are better known than the obstacles that might be met with on land.

Since, therefore, it seems best to Dr. Nansen to attempt the journey by sea, it becomes a question which route will most surely lead to the goal. It is known that to the eastward from Greenland a strong polar stream sets toward the south. Westward from Greenland a warm current, a branch of the Gulf Stream, passes northward along the coast, and a cold current running southward washes the coast as far as 75° north latitude, and can be traced even south of New York. Finally, a not inconsiderable current, likewise of polar origin and directed southward, has been discovered between Spitzbergen and Franz Josef Land. Thus we see that the vessels have a polar current to contend with whichever of the above routes they may take, and this seems to Nansen the chief reason why the pole has not been reached at any of the attempts hitherto made. The currents bring icebergs and the like with them, causing danger to the ships. Finally, it is easier to sail with than against the currents, and a way should be sought to turn them to account rather than fight against them.

The question is, Is there a current leading to the pole? The main arm of the Gulf Stream ends between Spitzbergen and Novaya Zemlya and Franz Josef Land, and the one on the west coast of Greenland ends before Baffin Bay narrows into Smith Sound. Nevertheless, Nansen believes that such a current exists.

When Nordenskiöld made the voyage by way of Europe and Asia and was gone so long that anxiety began to be felt about him, Gordon Bennett sent out the "Jeannette," July 8, 1879, to seek him and undertake independent researches in the Arctic Ocean, and, if possible, reach the pole by some as yet untried route. This expedition, led by De Long, was unsuccessful. The ship had but just passed through Behring strait when it was inclosed by ice eastward of Wrangel Island. It was driven about for two years without being extricated, and sank in latitude 77° 15', not far from the New Siberian isles, only a part of the crew escaping with their lives.

Although this expedition thus totally failed, accomplishing scarcely anything for science, still Nansen believes that it was on the right track, for, in the year 1884, there came on land at Julianchaab, on the western coast of Greenland, a cake of ice on which was frozen a pair of oiled trousers marked with the name of one of the sailors of the "Jeannette." There are three ways in which it might have come there—either a current may have driven it westward around Cape Cheliuskin, between Novaya Zemlya and Franz Josef Land, between Norway and Spitzbergen, between Iceland and Greenland

and around Cape Farewell, or it was carried northward by a current through regions yet unknown and then through Smith Sound and Baffin Bay, or it came from those unknown regions with the Arctic current that passes east of Greenland, and thence took its way around Cape Farewell.

A glance at the map will show that the first of these three ways is by far the longest. Furthermore, although the sea between the New Siberian Islands and Greenland is well known, there is no knowledge of a current running from east to west. The cold currents run from north to south or from northeast to southwest, and the warm currents in the opposite directions; but if the ice floe had taken the second route named, it must have been carried to the shore lying opposite Greenland, since it is washed by the cold stream passing southward, while Greenland receives the warm stream passing northward. Therefore it must be supposed that the floe was carried southward by the cold current east of Greenland, and, falling in with the warm current near Cape Farewell, drifted with it to the western coast.

Though the existence of a current from the region of the New Siberian Islands is not yet proved, it must be admitted as highly probable. The great slopes in the eastern part of northern Europe, in north Asia, and in western North America, send vast masses of water into the Arctic Ocean, while nothing even approximating an equal quantity enters it from the opposite side of the northern hemisphere, for that brought by the Gulf Stream or its equivalent is carried southward by the various Arctic currents. In order, therefore, to maintain the equilibrium of the quantity of water in the Polar Sea, those inflowing waters must pass away either to the west, the east, or the north. Since there is no considerable off-flow to be noticed toward either west or east, it is probable that the currents in the sea follow the direction of the inflowing rivers and tend northward.

Now, while we arrive theoretically at the probability of an ocean current passing northward from the vicinity of the New Siberian Islands and turning to the south forming the polar stream on the eastern coast of Greenland, the course of the ice floe shows that this current is not under the ice throughout its whole extent, but is, at least in part, open; otherwise the floe, perhaps the remnant of a greater ice field, would not have been able to pass. A glance at the globe will show the probability that this very current passes directly over the pole or very near to it.

On this theory is founded Nansen's plan to reach the pole. For this purpose he needs a ship of peculiar construction. It must be strong and firm to withstand the attack of the masses of ice and the powerful pressure. It must have oblique sides and such a bottom that if it is wedged in the ice it will be lifted and not crushed. He has little to fear from icebergs when he has once reached the current, since he will be sailing in the same direction with them. On the other hand, the ice pack will have serious dangers, and against such dangers the peculiar construction of the ship will help to guard; but even in case it should be crushed, Dr. Nansen believes that the expedition would not necessarily be lost. He thinks it will be possible to save boats, provisions, clothing, and other necessities on an ice field, where his company may winter and pass on with it till open and navigable water is reached. That life on an ice field is not so bad when plenty of food and clothing, and especially warm sleeping sacks, are provided, has been proved by Nansen's own experience in Greenland and the experience of travelers before him.

The ship must be well furnished with things needful for a polar voyage, but need not be very large nor carry a very large crew, though the crew should be well acquainted with polar navigation. The ship should be taken through Behring Strait and past Wrangel Island to the New Siberian Islands. Then the course can be directed northward, the ship may be fastened in by the ice, and, making use of the cur-

rent, be carried to its destination, the pole, and onward till it reaches open waters.

Nansen's idea that the plan can be carried out in two years is perhaps the weakest point in the entire scheme. Though the ice floe reached Julianehaab in three years, and though it might be inferred that a ship guided by men could make the voyage in a shorter time, still it should be considered that unusually favorable conditions of the ice and the currents may have contributed to the movement of the floe, while the expedition may meet with conditions equally unfavorable. It must also be remembered that when the ship is once fastened in the ice and has started forward with the current there is no longer a possibility of return, therefore provisions should be taken sufficient for four or five years' supply.

Another and a novel plan for reaching the pole is that proposed by two French scientists, M. Besançon, an aeronaut, and M. Gustave Hermit, an astronomer, who propose to pass over the north pole in a balloon, starting from Spitzbergen. According to the newspaper accounts, this air-ship will be 99 feet in diameter, and 500,000 cubic feet in volume. It will consist of an inner and an outer balloon, designed to preserve the pure hydrogen gas with which the bags will be filled. A row of 16 small balloons will encircle the large one and carry a reserve of gas. It is expected that, with favorable winds, the voyage can be made in four or five days.

For the third time in recent years, a steamer has succeeded in breaking through the masses of ice on the eastern coast of Greenland—this time the "*Hecla*," Capt. R. Knudsen, which penetrated as far north as Shannon Island. There seems, therefore, to be nothing in the way of an early exploration of this little known coast; and Lieut. C. Ryder, who took part in the exploration of the western coast, proposes to lead a company of nine men in a two years' exploration of the eastern coast from 66° N. to 73°. The expense is estimated at from 250,000 to 290,000 crowns. Sixty-six degrees is the farthest point reached by Capt. Holm, and 73° the terminating point of the survey of the second German polar expedition, 1869-70.

Baron Oscar Dickson, of Gothenburg, has not only supplied means for the further exploration of Iceland by Thoroddsen, and assisted the colony of Victoria to send out Nordenskiöld to antarctic regions, but he became in part responsible for the cost of an expedition to Spitzbergen under three young scientists, Boteman, Klinckowström, and G. Nordenskiöld, a son of the well-known explorer. They returned, Sept. 20, with good scientific results, having made studies of the geologic and zoölogic conditions and added to the knowledge of the hydrography secured by former expeditions. The ice prevented a visit to the Seven Islands; and the later work of the explorers was an examination of the glaciers in the neighborhood of Recherche Bay and Bel Sound. Capt. G. B. Leavitt, of the ship "*Spy*," of the Pacific Steam Whaling Company, who has spent five years in Alaska, having winter quarters at Point Barrow, has been in constant intercourse with the natives, and from them has gathered information which points to the existence of a habitable land beyond the limits of exploration by white people. This land is not on any of the maps, but its existence is stoutly insisted upon by the inhabitants of Alaska and neighboring

islands. One of their stories is to the effect that several years ago an adventurous hunter of a tribe in northern Alaska took dogs and sledges and went north across a frozen sea. Nothing was heard of him for over a year, and he was given up as lost. Then he returned and told a wonderful story of finding a new land far across the ice. There he built a hut and remained till the waters froze over again, when he found his way back to Alaska.

Captain Leavitt also says that during a cruise of one of the whaling fleet, the officers of the vessel discovered land at a point farther to the north than was indicated by any of the charts. They sailed along its shore for a considerable distance and encountered a severe gale. But the season was late, and they deemed it expedient to return south as soon as possible, so further investigation was abandoned.

Capt. Leavitt cites several circumstances in support of the existence of an open polar sea, an undiscovered land which will support habitation, and a passage thereto. There is a remarkable absence of ice drifts in the waters mentioned, and but for numerous dangerous shoals the possibilities of navigation would be encouraging.

Antarctic Regions.—The expedition long planned to be sent out under Nordenskiöld from Melbourne, for purposes of antarctic discovery, seems to be definitely arranged for. Dr. Oscar Dickson, of Gothenburg, offered to furnish \$5,000 toward the equipment of the expedition, provided a sum at least equal were furnished by the colony of Victoria. The autumn of 1891 is the time set for sailing, and it is supposed that South Victoria Land will be the point of destination.

GEORGIA. a Southern State, one of the original thirteen, ratified the Constitution Jan. 2, 1788; area, 59,475 square miles. The population, according to each decennial census, was 82,548 in 1790; 162,686 in 1800; 252,433 in 1810; 340,985 in 1820; 516,823 in 1830; 691,392 in 1840; 906,185 in 1850; 1,037,286 in 1860; 1,184,109 in 1870; 1,542,180 in 1880; 1,837,353 in 1890. Capital, Atlanta.

Government.—The following were the State officers during the year: Governor, John B. Gordon, Democrat, succeeded in November by William J. Northen, Democrat; Secretary of State, Nathan C. Barnett, who died on Feb. 3, and was succeeded by Philip Cook; Comptroller-General, William A. Wright; Treasurer, Robert U. Hardeman; Attorney-General, Clifford Anderson, succeeded in November by George N. Lester; Commissioner of Agriculture, John T. Henderson, succeeded in November by Robert T. Nesbitt; State School Commissioner, James S. Hook, succeeded by S. D. Bradwell; Railroad Commissioners, Alexander S. Irwin, L. N. Trammell, and Campbell Wallace, who resigned and was succeeded in January by James W. Robertson; Chief Justice of the Supreme Court, Logan E. Bleckley; Associate Justices, M. H. Blandford and Thomas J. Simmons.

Finances.—The following is a summary of the report of the State Treasurer for the year ending Sept. 30, 1890: Balance in the treasury on Oct. 1, 1889, \$430,191.01; total receipts for the year ensuing, \$3,979,694.22; total expenditures for the same period, \$2,131,793.08; balance on Sept. 30, 1890, \$2,278,092.15. The receipts

for the year included the sum of \$1,833,000 received from the sale of new bonds of the State, the issue of which was authorized by the act of Oct. 23, 1889. On Oct. 1, 1890, the day following the close of this report State bonds to the amount of \$2,098,000 became due and were paid out of the treasury, leaving \$180,092.15 as the normal balance in the treasury at the close of the fiscal year.

The State debt on Oct. 1, 1889, was \$8,631,305. During the year, in accordance with the act above mentioned, the Governor issued new bonds to obtain money for redeeming a part of this debt, which would become due on Oct. 1, 1890. These bonds, though bearing only 3½ per cent. interest, were disposed of at par, the amount issued and sold being \$1,833,000. With this sum and with \$265,000, derived from the sinking fund and other sources, the accruing bonds, amounting to \$2,098,000, were redeemed. During the same year non-interest-bearing State bonds to the amount of \$104,965 were also paid and redeemed. The total debt was thereby reduced to \$8,261,340 on Oct. 1, a reduction of \$369,965 during the year.

The total assessed valuation of property for 1890 slightly exceeded \$400,000,000, upon which a total rate of 3-96 mills was levied for State purposes.

Education.—The latest report of the State School Commissioner contains the following public-school statistics for the school year ending in July, 1889: Number of white schools, 4,593; number of colored schools, 2,288; white pupils enrolled, 209,276; colored pupils enrolled, 133,220; total enrollment, white and colored, 342,496; average daily attendance, white and colored, 230,384; total expenditures for school purposes, \$959,881.45; teachers' wages, \$823,161.74; average length of school year, three months; total population of school age, 560,281. The total sum available for school purposes during the year was \$1,065,537.85, of which the sum of \$337,814.53 was raised locally and the sum of \$683,380.50 by the State, the remainder being the balance on hand at the beginning of the year. The sum of \$683,380.50, raised by the State and constituting the State school fund for the year, was derived from the following sources: From tax on shows, \$1,895.80; from liquor tax, \$71,739.96; from one half rental State railroad, \$150,000; from dividends Georgia Railroad, \$2,046; from net hire of convicts, \$17,356.98; from fees of inspector of fertilizers, \$87,186.19; from special legislative appropriation, \$165,000; and from poll tax, \$188,155.57. The Legislature of 1888-'89 was commendably liberal to the schools, doubling the annual special appropriation and giving them the tax on all assessed property over the value of \$360,000,000. As a result, the total State school fund for 1890 reached approximately \$826,656.05, an increase of nearly \$150,000 over 1889, and the State School Commissioner was able to order the schools kept open for four months at the expense of the State, or one month longer than in 1889.

In many of the larger towns and cities local taxes are levied to supplement the State fund, whereby pupils are enabled to receive instruction from seven to nine months. In the rural districts also long-term schools, so called, are be-

ing rapidly established with the co-operation of the State School Board. These schools are supported for four months by the State, and for another four months by voluntary contributions from the patrons. Such schools are now found in nearly every county, a few counties having ten or twelve. Georgia is one of the few States that have no distinctive normal school. The only instruction for teachers is furnished through occasional teachers' institutes. But the Legislature of 1888-'89 has made a beginning by appropriating \$35,000 for a normal and technological school for girls at Milledgeville, the corner stone of which was laid in November, 1890.

County Debts.—The total indebtedness of Georgia counties is \$465,000, of which \$399,000 is bonded and \$66,000 floating. There has been an increase since 1880 of \$283,270 in the debt. Three fourths of the counties have no debt.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Appling.....	5,276	8,676	3,400
Baker.....	7,307	6,744	*1,163
Baldwin.....	13,906	14,605	509
Banks.....	7,837	8,562	1,225
Bartow.....	18,890	20,616	1,926
Berrien.....	6,619	10,694	4,075
Bibb.....	27,147	42,870	15,223
Brooks.....	11,727	13,979	2,252
Bryan.....	4,929	5,520	591
Bulloch.....	8,053	18,712	8,659
Burke.....	27,128	28,501	1,373
Butts.....	8,311	10,685	2,254
Calhoun.....	7,924	8,498	1,414
Camden.....	6,158	6,178	*5
Campbell.....	9,970	9,115	*855
Carroll.....	16,901	22,301	5,400
Catoosa.....	4,789	5,431	692
Charlton.....	2,154	3,335	1,181
Chatham.....	45,023	57,740	12,717
Chattahoochee.....	5,670	4,902	*768
Chattooga.....	10,021	11,292	1,151
Cherokee.....	14,325	15,412	1,087
Clarke.....	11,702	13,186	8,484
Clay.....	6,650	7,817	1,167
Clayton.....	8,027	8,295	268
Cline.....	4,138	6,652	2,514
Cobb.....	20,748	22,286	1,538
Coffee.....	5,070	10,438	5,413
Colquitt.....	2,527	4,794	2,267
Columbia.....	10,465	11,281	816
Covett.....	21,109	22,324	1,245
Crawford.....	8,636	9,215	619
Dade.....	4,702	4,707	1,005
Dawson.....	5,897	5,612	*225
Decatur.....	19,072	19,949	877
De Kalb.....	14,497	17,189	2,692
Dodge.....	5,358	11,452	6,094
Dooley.....	12,420	18,146	5,726
Dougherty.....	12,622	12,296	*416
Douglas.....	6,954	7,794	860
Early.....	7,611	9,392	2,181
Echols.....	2,363	3,079	526
Effingham.....	5,979	5,569	*880
Elbert.....	12,957	15,376	2,419
Emanuel.....	9,769	14,703	4,944
Fannin.....	7,245	8,724	1,479
Fayette.....	8,605	8,728	123
Floyd.....	24,418	28,391	3,973
Forsyth.....	10,559	11,155	596
Franklin.....	11,433	14,670	8,217
Fulton.....	40,137	54,655	35,518
Gilmer.....	8,366	9,074	608
Glascock.....	8,577	8,720	143
Glynn.....	6,497	13,420	6,923
Gordon.....	11,171	12,758	1,587
Greene.....	17,547	17,051	*496
Gwinnett.....	10,581	19,499	2,668
Habersham.....	8,718	11,573	2,855
Hall.....	13,298	18,047	2,749

COUNTIES.	1880.	1890.	Increase.
Hancock.....	16,989	17,149	160
Harrison.....	5,974	11,816	5,842
Harris.....	10,123	16,797	1,689
Hart.....	9,064	10,867	1,793
Head.....	8,730	9,567	758
Henry.....	14,193	16,220	2,027
Houston.....	22,414	21,618	*801
Irwin.....	2,606	6,316	3,620
Jackson.....	16,297	10,176	2,879
Jasper.....	11,851	18,879	2,028
Jefferson.....	15,671	12,213	1,542
Johnson.....	4,700	6,129	1,329
Jones.....	11,618	12,709	1,096
Laurens.....	10,054	13,747	3,694
Lee.....	10,577	9,074	*1,503
Liberty.....	10,649	12,887	2,238
Lincoln.....	6,412	6,146	*266
Lowndes.....	11,049	15,102	4,053
Lumpkin.....	6,526	6,867	341
McDuffie.....	9,449	8,759	*690
McIntosh.....	6,341	6,470	229
Macon.....	11,675	13,183	1,508
Madison.....	7,978	11,024	3,046
Marion.....	8,598	7,728	*870
Meriwether.....	17,651	20,740	3,089
Milledgeville.....	3,720	4,275	555
Milton.....	6,261	6,208	*53
Mitchell.....	9,392	10,906	1,514
Monroe.....	18,808	19,137	329
Montgomery.....	5,881	9,248	3,367
Morgan.....	14,632	16,041	2,009
Murray.....	8,269	8,461	192
Muscogee.....	19,322	27,761	8,439
Newton.....	14,510	14,871	361
Oconee.....	6,551	7,718	1,167
Oglethorpe.....	10,400	10,961	1,551
O'aulding.....	10,887	11,948	1,061
Pickens.....	6,790	8,182	1,392
Pierce.....	4,585	6,379	1,841
Pike.....	15,849	16,800	451
Polk.....	11,552	14,445	2,998
Polkville.....	14,058	16,559	2,501
Putnam.....	14,539	14,842	303
Quitman.....	4,869	4,471	79
Rabun.....	4,684	8,606	672
Randolph.....	13,841	15,267	1,426
Richmond.....	34,665	45,194	10,529
Rockdale.....	6,888	6,818	*25
Schley.....	5,902	5,448	141
Scriven.....	12,746	14,424	1,678
Spalding.....	12,585	13,117	532
Stewart.....	13,993	16,629	1,684
Sumter.....	16,208	22,107	5,868
Talbot.....	14,115	13,298	*857
Talferfer.....	7,094	7,391	297
Tattnall.....	6,988	10,258	3,265
Taylor.....	5,797	8,666	699
Telfair.....	4,825	5,477	649
Terrell.....	10,451	14,503	4,052
Thomas.....	20,697	26,154	5,557
Townes.....	8,261	4,064	808
Troup.....	20,565	20,728	163
Twigg.....	5,915	8,168	2,253
Union.....	6,481	7,749	1,318
Upson.....	12,400	12,188	*212
Walker.....	11,056	13,222	2,226
Walton.....	15,622	17,467	1,845
Ware.....	4,159	8,811	4,652
Warren.....	10,885	10,957	72
Washington.....	21,964	25,277	3,313
Wayne.....	5,980	7,485	1,505
Webster.....	5,267	5,655	458
White.....	5,341	6,151	810
Whitfield.....	11,960	12,616	656
Wilcox.....	3,109	7,980	4,871
Wilkes.....	15,985	18,081	2,096
Wilkinson.....	12,061	10,781	*1,280
Worth.....	5,892	10,048	4,156
Total.....	1,542,180	1,887,823	395,173

* Decrease.

Penitentiary.—On Oct. 1, 1888, there were 1,537 prisoners in the convict camps of the State, 1,336 being colored males, 52 colored females, and 149 white males. During the two years ensuing 966 were received from the jails, and 8 escaped convicts were recaptured, making the total

2,511. Of this number 593 were discharged by expiration of their sentence, 107 died, 72 were pardoned, 13 returned to court for new trial, 40 escaped, and 2 were sent to the insane asylum, leaving 1,694 on the rolls on Oct. 1, 1890, of whom 1,478 were colored males, 48 colored females, and 168 white males.

The State Railroad.—Under the act of Nov. 12, 1889, bids for the lease of the Western and Atlantic Railroad were advertised for, to be submitted in writing on or before June 27, 1890. Two bids only were submitted. The bid of the Nashville, Chattanooga and St. Louis Railway, offering \$35,001 a month for twenty-nine years, was accepted. The State thereby derives a handsome revenue and still retains her ownership of the road. There are unsettled questions between the outgoing lessees and the State, for which the Legislature in December provided a mode of settlement. The leased road runs from Atlanta to Chattanooga, Tenn., and the lessees thereby obtain a through line from Atlanta to St. Louis.

Confederate Pensions.—The law giving small bounties to Confederate soldiers has been in operation since 1887, during which time the number of beneficiaries under the law has increased from 1,900 to 3,100. The total payments to these applicants aggregate about \$180,000. Besides the large number who are paid, hundreds of applications are rejected after an examination which, as a rule, is more laborious than that bestowed upon those that are approved. The amendment to the Constitution to pension a certain class of widows of deceased Confederate soldiers, which was ratified by the people on Oct. 1, 1890, will materially increase the labor connected with pension applications.

County Jails.—The last message of the Governor contains the following comments upon this subject:

The jails of many of the counties of the State are filthy, unhealthy, insecure, and altogether unfit for the confinement of human beings. The officials of the Penitentiary represent that many of the convicts received by them, who have been incarcerated in county jails for some time, reach the Penitentiary camps loathsome with filth and disease, covered with vermin, and seriously enfeebled in constitution. The interior of some of these jails are too disgusting for description. Their inmates are often crowded together in filthy apartments, without regard to sex or color, without sufficient air or light, or water, or food, or clothing, or fire, in utter disregard of all the laws of health. The convicts in our Penitentiary who are condemned criminals are infinitely better cared for than the inmates of many of our jails, who are innocent in contemplation of law until they have been tried and convicted. The Legislature should regulate the construction of our jails, so that they may have sufficient light and ventilation and warmth and area. It should prescribe such rules for the regimen and diet of prisoners, and for their proper classification and division in dormitories, as are required by good morals, by humanity, and by the laws of scientific sanitation.

Direct Trade Convention.—On Aug. 25 Gov. Gordon, at the suggestion of the State Alliance, issued an invitation to the Governors of the cotton-producing States to meet at Atlanta on Sept. 10, and each Governor appointing six delegates from his State to accompany him, for the purpose of considering the subject of establishing direct trade with Liverpool. This invita-

tion brought together delegates from Tennessee, North Carolina, South Carolina, Alabama, and Florida. There were also present delegates from the State Alliance. The following resolution embodies the result of the meeting:

That this convention recommend the selection by the Alliance of each Southern State of a delegation of twelve, and by each organized commercial body of each city in the South of one from each of such bodies, to meet in Atlanta on the second Wednesday of January, 1891, to perfect the details for the organization of two companies to promote direct trade and to perfect a plan for soliciting subscriptions to the stock of such companies.

Political.—During 1889 the growth of the Farmers' Alliance and the extension of its organization in the State was so rapid that when, early this year, it began to take part in politics, it soon found itself able to dictate terms to the Democratic party. Early in April the State Alliance announced, through its executive officers, that every candidate for office, in order to receive the Alliance support, must pledge himself to certain principles, the following among others:

To support and do all in their power to further legislation restricting railroads.

To a revision of the present public-school system, thereby affording more extended facilities for common education.

To such changes in the penitentiary system as will ameliorate the condition and treatment of the convicts, and as soon as possible the system be so changed that all able-bodied male convicts shall be worked on the public highways, and that special provisions be made for workhouses for women and children.

To a reduction of State and national taxes. Asserting that taxes should only be levied for revenue, and that to an economical and judicious administration.

That in the revision of the protective tariff, the burdens now resting on the agricultural and laboring classes shall be lessened to the greatest possible extent.

That our representatives in the national Legislature shall advocate the passage of such laws as will prevent speculation and combines that seek to interfere with prices of prime necessities and productions.

To an abolition of the national banking system, and the substitution of legal Treasury notes in lieu of national bank notes, and in sufficient volume, in conjunction with gold and silver, to do the business of the country on a cash basis.

That the Sub-Treasury bill of the National Alliance now pending in Congress, or some better system for the relief of the struggling masses, be passed.

This measuring rod was so rigorously used that scarcely a candidate for any office, State or national, was able to secure a Democratic nomination without putting himself on record in favor of these or similar measures and avowing full sympathy with the Alliance.

For the Democratic gubernatorial nomination William J. Northen, President of the State Agricultural Society, had been an acknowledged aspirant since early in 1889. No one had appeared openly to oppose his candidacy, when early in June the Alliance adopted him as its candidate. This action practically assured his nomination, and no one afterward entered the contest against him, except Col. Thomas Hardeman, who withdrew late in June without attempting a serious canvass. At the Democratic State Convention held at Atlanta on Aug. 7, Northen was nominated by acclamation. The ticket was completed by the renomination of Secretary of State Cook,

Treasurer Hardeman, and Comptroller Wright, by the selection of George N. Lester for Attorney-General and Robert T. Nesbitt for Commissioner of Agriculture. Attorney-General Anderson and Commissioner Henderson were defeated for re-nomination. The resolutions included the following:

We point with pride to the fidelity and capacity with which the affairs of State have been managed by our distinguished Governor, John B. Gordon, and the other State-house officers. We will heartily support the nominees of this convention, and we call upon all Democrats to support party nominations in the various districts and counties of this State.

The Republican State Executive Committee deemed it unwise for the party to nominate a State ticket, and at the election, on Oct. 1, the Democratic ticket received the entire vote cast—Northern receiving 105,365 votes; Cook, 103,695; Hardeman, 102,911; Lester, 100,933; Wright, 102,621; Nesbitt, 96,406. Members of the Legislature were chosen at the same time, 160 out of the entire 219 in both Houses being Alliance men, and almost all Democrats. An amendment to the State Constitution, authorizing the Legislature to pension widows of Confederate soldiers who died in the service or from wounds incurred in the service, was adopted by the people; but irregularities in procedure invalidated the result, and will render another election necessary.

At the November election ten Democratic members of Congress were chosen, the vote being as follows: First District, R. E. Lester (Dem.), 10,905, M. J. Doyle (Rep.), 3,127; Second District, H. G. Turner (Dem.), 7,361, C. S. Matteson (Rep.), 948; Third District, Charles F. Crisp (Dem.), 8,038, P. C. Gibson (Rep.), 1,248; Fourth District, Charles L. Moses (Dem.), 9,609; Walter H. Johnson (Rep.), 3,438; Fifth District, L. F. Livingston (Dem.), 8,688, Will Haight (Rep.), 3,608; Sixth District, James H. Blount (Dem.), 2,860, no opposition; Seventh District, R. W. Everett (Dem.), 10,031, W. H. Felton (Ind. Dem.), 8,460, Z. B. Hargrove (Rep.), 638; Eighth District, Thomas G. Lawson (Dem.), 3,405, no opposition; Ninth District, Thomas E. Winn (Dem.), 10,315, Thaddeus Pickett (Ind. Dem.), 4,087, S. A. Darnell (Rep.), 3,133; Tenth District, Thomas E. Watson (Dem.), 5,456, A. E. Williams (Rep.), 597. The only members of the present Congress re-elected were Messrs. Lester, Turner, Crisp, and Blount, the others being defeated for re-nomination at the primaries by the influence of the Farmers' Alliance. All the delegation are pledged to the Alliance principles. Livingston, of the Fifth District, is the President and leader of the State Alliance.

Legislative Session.—The Legislature elected in October assembled for its first session at Atlanta, on Nov. 5. Being controlled by members of the Farmers' Alliance, it was watched with unusual interest. One of its earliest duties was the selection of a successor to United States Senator Brown, who had declined a re-election. Gen. Gordon, the retiring Governor, was the leading candidate, but he encountered the opposition of those who believed that a pronounced champion of Alliance ideas should be chosen. Several aspirants for the favor of the anti-Gordon members appeared, and a series of caucuses became necessary, at the last of which, on Nov.

13, Hon. Patrick Calhoun secured the anti-Gordon nomination; but the other Alliance aspirants, who went into the caucus, refused to be bound by it, and carried the contest into the Legislature. Gen. Gordon obtained a majority in each House on the first ballot, on Nov. 18, and was declared elected on the following day in joint session, the vote being: Senate, Gordon 25, T. M. Norwood 7, Calhoun 6, J. K. Hines 3, N. J. Hammond 2; House, Gordon 97, Norwood 36, Calhoun 19, Hines 10, Hammond 7. A successor to Associate-Justice Blandford, of the Supreme Court, who declined a re-election, was chosen at this session, Hon. Samuel Lumpkin being the successful candidate. Judge Allen Fort was chosen Railroad Commissioner to succeed Hon. Alexander S. Irwin.

The legislation of the session includes an act providing a method for settling the claims of the outgoing lessees of the Western and Atlantic Railroad against the State for betterments. These claims are referred to a commission of eight members appointed by the Governor with the consent of the Senate, which is empowered to hear both the lessees and the State, to pass upon their respective claims, and to report their findings to the Governor. Such findings shall have no force or effect unless concurred in by five members of the commission, and approved by the Governor. The commission shall conclude its labors by June 1, 1891, and shall receive compensation from the State. It was provided that no action should be taken under the act until the lessees should file with the Governor an agreement to abide by the settlement arrived at under its provisions. On Dec. 22 this agreement was filed by the lessees, and the Governor at once appointed the following commissioners: J. C. C. Black, J. L. Warren, George A. Mercer, N. J. Hammond, G. Gunby Jordan, Walter B. Hill, Daniel G. Hughes, C. D. McCutchen. In the regular appropriation bills passed at this session the public schools were liberally treated, but a disposition hostile to higher education was manifested by an attempt to withhold support from the branch colleges of the State University. They obtained an appropriation for one year only through the persistency of the Senate in their behalf. The session adjourned on Dec. 22 until the following July, having completed a large amount of legislation, chiefly local and special.

GERMANY, an empire in central Europe, established in accordance with treaties concluded in November, 1870, between the North German Confederation and the Grand Duchies of Baden and Hesse and Kingdoms of Bavaria and Württemberg, which were ratified on Jan. 29, 1871. By vote of the Reichstag of the North German Confederation and on the unanimous invitation of the princes of the German states, Wilhelm I, King of Prussia, became the first German Emperor, and on April 16, 1871, the Constitution of the empire was promulgated by a decree that went into force on May 4, 1871. The confederation of states forming the empire is invested with sovereign imperial authority, which is exercised by the King of Prussia as hereditary German Emperor, and the Bundesrath or Federal Council, representing the federated states, in conjunction with the Reichstag or German

Parliament, consisting of 397 Deputies elected by ballot and by universal suffrage, one for every 118,000 of the population. The military and political affairs of the empire are under the supreme direction of the Emperor, who has power to make treaties, declare war for defensive purposes, conclude peace, and appoint and receive ambassadors. For an offensive war he must have the consent of the Bundesrath. This body, which is presided over by the Chancellor of the Empire, consists of 58 members, Prussia being represented by 17, Bavaria by 6, Württemberg and Saxony by 4 each, Baden and Hesse by 3 each, Mecklenburg-Schwerin and Brunswick by 2 each, and Oldenburg, Saxe-Weimar, Mecklenburg-Strelitz, Saxe-Meiningen, Anhalt, Saxe-Coburg-Gotha, Saxe-Altenburg, Waldeck-Lippe, Schwarzburg-Rudolstadt, Schwarzburg-Sondershausen, Reuss-Schleiz, Schaumburg-Lippe, Reuss-Greiz, and the free cities of Hamburg, Lübeck, and Bremen each by a single member. The Imperial Province of Alsace-Lorraine is represented by 4 commissioners nominated by the Statthalter, who have no votes. All laws of the empire must receive a majority of the votes of both the Bundesrath and the Reichstag and the assent of the Emperor.

The reigning Emperor is Wilhelm II, born Jan. 27, 1859, who succeeded his father, Friedrich, on June 15, 1888. The heir apparent is the Emperor's oldest son, Friedrich Wilhelm, born May 26, 1884.

The Chancellor of the Empire at the beginning of 1890 was Prince Otto von Bismarck-Schönhausen, born April 1, 1815, who filled the offices of Vice-President of the Council of State, President of the Council of Ministers, Minister of Foreign Affairs, and Minister of Commerce and Industry. The Secretary of State for Foreign Affairs was Count Herbert von Bismarck-Schönhausen, son of the Chancellor; Secretary of State in the office of the Interior and Vice-President of the Council of Ministers, Herr von Bötticher; Minister of Public Works, Herr von Maybach; Minister of Agriculture, Baron Lucius von Ballhausen; Minister of Worship, Dr. von Gossler; Minister of Finance, Dr. von Scholz; Minister of the Interior, Herr Herrfurth; Minister of Justice, Dr. von Schelling; Minister of War, Gen. von Verdy du Vernois; Secretary of State in the Post-Office Department, Dr. von Stephan; Secretary of State in the Department of Justice, Herr von Oehlschläger; Secretary of State in the Imperial Admiralty Office, Rear-Admiral Heussner; Secretary of State in the Imperial Treasury, Baron von Maltzahn.

Area and Population.—The area of the German Empire is 211,168 square miles. The population, as determined by the census of Dec. 1, 1885, was 46,855,704, of whom 22,933,664 were males and 23,922,040 females. There were 5,798,288 boys and 5,778,674 girls under ten years of age, and 88,516 men and 113,939 women over eighty years of age. Of the total population, 14,249,297 males and 13,895,459 females, in all 28,144,756, were unmarried, 15,855,064 were married, 67,794 were divorced, and 2,788,090, of whom 2,037,206 were females, were widowed. The total population in 1888 was estimated at 48,020,000. There are about 3,225,500 belonging to non-Germanic races, including 2,513,500 Poles

in East and West Prussia, Silesia, and Posen; 280,000 Walloons and French; 150,000 Lithuanians; 140,000 Danes; and 140,000 Wends, Moravians, and Bohemians. The number of foreigners residing in Germany in 1885 was 434,525, having increased from 275,856 in 1880. The number of Austrians was 155,331; Russians, 48,853; Dutch, 45,270; Swiss, 36,902; French, 38,708; Danes, 20,848; British, 14,889; Swedes and Norwegians, 13,174; Luxemburgers, 11,607; other Europeans, 26,611; Americans, 15,017; from other countries, 8,628. In 1885 the 21 large cities with over 100,000 inhabitants contained 9.5 per cent. of the population, 116 medium towns with from 20,000 to 100,000 inhabitants contained 8.9 per cent., 683 small towns with from 5,000 to 20,000 inhabitants contained 12.9 per cent., 1,951 country towns having between 2,000 and 5,000 inhabitants contained 12.4 per cent., and 56.3 per cent. lived in villages or in the open country.

The number of marriages in 1888 was 376,654, against 370,659 in 1887; the number of births was 1,828,379, against 1,825,561; of deaths, 1,209,708, against 1,220,405; the excess of births over deaths, 618,581, against 605,155 in 1887, 512,396 in 1886, 530,185 in 1885, 522,083 in 1884, and 493,697 in 1883.

According to the census of 1885 the number of Protestants in Germany was 29,369,847, or 62.7 per cent. of the total population; Catholics, 16,788,979, or 35.8 per cent.; other Christians, 125,673, or 0.27 per cent.; Jews, 563,172, or 1.2 per cent.; others, 11,278, or 0.02 per cent. In Alsace-Lorraine the Catholics constituted 77.37 per cent. of the population; in Bavaria, 70.84 per cent.; in Baden, 62.73 per cent.; in Prussia, 33.98 per cent.; in Württemberg, 29.99 per cent.; in Hesse, 29.11 per cent.; in Oldenburg, 21.77 per cent.; in the rest of the empire, less than 3.6 per cent.

The number of German emigrants sailing from German ports and from Antwerp, Rotterdam, and Amsterdam in 1889 was 90,332, against 103,951 in 1888, 104,787 in 1887, 83,225 in 1886, 110,119 in 1885, and 149,065 in 1884. In the five years 1879-83 the average was 142,010, and in 1874-78 it was 30,086. Of the emigrants of 1889 49,497 were males and 40,692 females. The number of families was 13,557, comprising 50,328 persons. Of the total number, 84,497 were bound for the United States, 2,412 for Brazil, 2,243 for other American countries, 496 for Australia, 422 for Africa, and 262 for Asiatic countries. Besides the German emigrants, 106,808 from other countries embarked at German ports in 1889. The emigration to the United States was less than in any other year since 1880, with the exception of 1886. The German statistics of emigration are below the real number for the reason that they do not include the persons who leave the country clandestinely to escape military duty or for other reasons. The estimate of the United States Treasury Department, which was 95,947 for 1889, is too large, because passengers are counted who are not immigrants. The annual emigration from West Prussia, Brandenburg, and Pomerania for the past four years has been from 0.5 to 1 per cent. of the total population. From Schleswig-Holstein, Hanover, Oldenburg, and Württemberg there has been a large exodus

likewise. The statistics of the occupation of emigrants in 1889 are as follow: Agriculture and forestry, 15·8 per cent.; industry, mining, and building, 16·7 per cent.; trade and commerce, 9 per cent.; liberal professions and state service, 1·5 per cent.; labor and service, 24·9 per cent.; no occupation given, 32·1 per cent. A large proportion of the emigrants, both male and female, ranged between the ages of 21 and 30. Of the total number 45 per cent. were females, while in the entire population the proportion of females is 51 per cent.

Finances.—The ordinary expenditure of the Imperial Government increased from 446,511,000 marks per annum in the five years 1885-'89 to 507,247,000 marks in the following quinquennial period, and since 1884 has continued to grow steadily, having been 571,011,000 marks in 1885, 594,302,000 marks in 1886, 625,562,000 marks in 1887, 697,036,000 marks in 1888, and 802,555,000 marks in 1889. The extraordinary expenditure, chiefly for military purposes, which was 67,970,000 marks in 1887, was increased to 170,898,000 marks in 1888 and to 401,213,000 marks in 1889. In 1888 the army and navy absorbed 413,310,000 marks of the ordinary and 164,339,000 marks of the extraordinary expenditure, while 21,176,000 marks went for the debt and 278,109,000 for the general expenses. In 1889 the ordinary military expenditure was 414,102,000 marks; the extraordinary, 366,162,000 marks; the expenses of the debt, 30,603,000 marks; and the general expenses of Government, 392,901,000 marks. The total revenue for the year ending March 31, 1891, is estimated at 1,208,664,739 marks, including 277,700,307 marks of extraordinary receipts. The receipts from customs and excise duties are estimated at 537,399,140 marks; from stamps, 30,279,000 marks; from posts and telegraphs, 32,719,226 marks; from the imperial printing office, 1,175,880 marks; from railroads, 20,003,000 marks; from the Imperial Bank, 1,383,500 marks; from various departments, 11,535,483 marks; interest of the Invalid fund, 25,837,893 marks; interest of imperial funds, 539,000 marks; from various sources, 406,479 marks; Federal contributions, 269,685,831 marks. The total ordinary expenditure for 1891 is 849,614,835 marks, divided as follows: Reichstag, 383,370 marks; Chancellery, 147,960 marks; Foreign Affairs, 8,835,515 marks; Interior, 8,516,384 marks; army, 376,800,813 marks; navy, 48,287,595 marks; Ministry of Justice, 1,860,096 marks; Imperial Treasury, 303,509,268 marks; railroads, 299,830 marks; debt, 46,622,500 marks; audit, 555,048 marks; Pension fund, 37,958,563 marks; Invalid fund, 25,837,893 marks. The extraordinary expenditure amounts to 359,049,904 marks, including a deficit of 20,198,738 marks in the accounts for 1889-'90. The extraordinary expenditure for the army is 243,962,152 marks; for the navy, 50,493,570 marks; for the interior, 25,856,635 marks; for posts and telegraphs, 8,191,159 marks. In 1889-'90 the revenue from the manufacture of spirits was 7,686,219 marks below the estimate, and the tax on the consumption of spirits produced 18,734,825 marks less than was expected; but an increase of 13,929,558 marks in the stamp revenue, and of 11,951,707 marks in the Bourse tax, counterbalanced this, and similar increases in the brewing tax, the private-lottery tax, in the

taxes on salt, tobacco, and sugar, and in many other items made the total revenue 78,239,381 marks more than the estimate.

The funded debt of the empire in 1889 consisted of 450,000,000 marks of 4-per-cent. bonds and 368,787,000 marks raised at $\frac{3}{4}$ per cent. Further issues sufficient to realize 711,119,921 marks were authorized, and it was estimated that 329,435,750 marks would have to be raised to meet the extraordinary expenditure of 1889-'90. There is an unfunded debt, represented by treasury bills, of which 126,552,405 marks were in circulation on April 1, 1889.

The amount of the Invalid fund at the end of February, 1889, was 482,551,218 marks, besides 3,518,375 Frankfort florins and 5,271,286 silver marks. Of the fund for the construction of fortresses 2,524,200 marks remained. The fund for the construction of the Reichstag palace was 17,641,200 marks. Besides these invested funds there was the war treasure, 120,000,000 marks in gold, in the fortress at Spandau.

The budgets of the several states composing the empire (except that of Mecklenburg-Strelitz, which is not published), with their debts, incurred mainly for railroad construction and in several instances more than covered by the value of reproductive public works, are given, in German marks, in the following table, the figures relating in most cases to 1890 and in others to 1889:

STATES.	Revenue.	Expenditure.	Debt.
Prussia.....	1,513,894,579	1,513,894,579	4,457,182,070
Bavaria.....	260,087,121	260,087,121	1,342,011,232
Württemberg.....	60,285,018	60,375,649	458,471,826
Saxony.....	112,102,814	112,102,814	658,314,490
Baden.....	61,705,000	62,208,000	184,206,354
Mecklenburg- Schwerin.....	19,781,825	19,781,823	41,905,550
Hesse.....	23,804,411	23,611,203	83,695,308
Oldenburg.....	7,690,819	8,177,550	87,616,567
Brunswick.....	13,620,000	13,620,000	25,971,000
Saxe-Weimar.....	6,746,544	6,746,544	5,586,675
Saxe-Meiningen...	5,248,730	4,346,840	19,388,517
Anhalt.....	16,920,000	16,927,000	2,916,550
Saxe-Coburg Gotha.	4,694,438	3,704,088	4,758,447
Saxe-Altenburg....	2,787,974	2,725,075	957,941
Waldeck.....	1,081,965	1,041,876	2,272,800
Lippe.....	1,082,509	1,035,018	882,907
Schwarzburg-Rudol- stadt.....	2,203,200	2,203,200	4,246,000
Schwarzburg-Son- dershausen.....	2,432,049	2,426,605	3,686,962
Reuss (elder line)...	1,078,230	1,078,230	809,234
Schaumburg-Lippe...	786,240	704,714	600,000
Reuss (younger line)	1,458,263	1,485,038	1,424,478
Hamburg.....	46,857,100	49,218,900	226,511,784
Lübeck.....	3,230,809	3,230,809	13,847,667
Bremen.....	11,411,800	12,275,773	68,795,600
Alsace-Lorraine....	44,917,571	43,947,599	26,077,000

The Prussian budget for the year ending March 31, 1891, makes the total revenue 1,591,673,942 marks, of which 82,682,334 marks are derived from domains and forests, 165,746,800 marks from direct taxes, 67,349,000 marks from indirect taxes, 8,291,500 marks from the state lottery, 2,052,000 marks from the Marine Bank, 246,320 marks from the mint, 121,282,170 marks from mines, salt works, and iron furnaces, 851,685,405 marks from state railways, 223,938,522 marks from the finance administration, and 68,399,891 from the various ministries. The total expenditure is estimated at 1,591,673,942 marks, balancing the revenue. The total working expenditure is 710,011,757 marks, of which 39,519,180 marks represent expenditure on do-

mains and forests, 45,470,150 marks the financial administration of the same, 102,943,243 marks the administration of mines and other industrial establishments, and 522,079,184 marks the cost of railroad administration. The total charges on the consolidated fund amount to 508,423,555 marks, including 200,661,791 marks for interest and 46,835,531 marks for the sinking fund of the debt, 155,754,017 marks as Prussia's contribution to the expenditure of the Imperial Government, 93,589,581 marks for appanages, annuities, indemnities, etc., and 8,000,000 marks lately added to the civil list of the King. The administrative expenditure is estimated at the sum of 325,053,561 marks, of which 56,855,275 marks are required for the Ministry of Finance, 20,954,381 marks for the Ministry of Public Works, 4,362,543 marks for the Ministry of Commerce and Industry, 87,029,000 marks for the Ministry of Justice, 43,840,441 marks for the Ministry of the Interior, 14,894,255 marks for the Ministry of Agricultural, Domains, and Forests, 92,480,572 marks for the Ministry of Public Worship and Instruction, 3,982,342 marks for the Ministry of State, 503,000 marks for the Ministry of Foreign Affairs, and 121,752 marks for the Ministry of War. The total ordinary expenditure is 1,543,458,873 marks, and the non-recurring expenditure 48,215,069 marks.

The Army.—The Constitution established universal liability to military service, and under the army law every German capable of bearing arms must belong to the active army for three years and to the reserve of the active army for four years more. The well-behaved and proficient are furloughed after two years of active service, but are liable to be recalled at any time. Young Germans usually begin their term of service at the age of twenty. After completing the seven years they are enrolled in the Landwehr, and can be summoned for duty in the first ban for the first five years and afterward in the second ban till they are thirty-nine years old. The Landsturm comprises in the first ban all able-bodied young men between the ages of seventeen and thirty-nine who have received any military training and who do not form a part of the regular army or its reserve or of the Landwehr. The second ban includes every one able to serve between the ages of thirty-nine and forty-five, whether he has received military training or not. Of the 400,000 men or more who arrive at the age of twenty every year, about one fourth are incapacitated by physical defects. The recruits for the active army are drawn by lot, and the remainder of those who are capable of bearing arms are enrolled in the Ersatztruppen, and are liable to be called out for three periods of drill, one of ten, one of six, and one of four weeks. The period of service in the Ersatzreserve is twelve years, at the end of which those who have thus been called out pass into the first ban and the rest into the second ban of the Landsturm. Non-commissioned officers usually remain in the army until they are no longer capable of active service, when they often receive an appointment to some petty civil office. About 8,000 one-year volunteers who pay all their own expenses enter the army annually.

By the law of March 11, 1887, the peace effect-ive was fixed for the next seven years at 468,409,

or 491,955, including the medical and administrative services. According to the army budget for 1889-'90, the 166 line regiments of infantry number 10,364 officers and 310,144 men; 21 battalions of riflemen, 446 officers and 11,773 men; depot troops for 277 battalions of Landwehr, 385 officers and 4,862 men; infantry surgeons, instructors, etc., 2,175 men; total infantry, 11,195 officers and 328,954 men. The 93 regiments of cavalry number 2,359 officers and 64,163 men, with 62,450 horses, exclusive of 848 officers and men on special service. The strength of the 38 regiments of field artillery is 1,984 officers and 40,929 men, exclusive of 606 on special service, with 22,457 horses and 1,538 guns. The foot artillery, consisting of 14 regiments and 3 battalions, numbers 738 officers and 17,244 men, besides 99 on special service. The engineers, divided into 19 battalions of pioneers, 1 regiment of railway troops, 1 railway battalion, and 1 balloon detachment, number 562 officers and 12,247 men, besides 97 assigned to special services. The train, of which there are 18 battalions and 1 company, has 256 officers, 6,053 men, and 3,360 horses, besides 63 men on special service. In special formations 867 officers and 979 men are employed, and 1,996 officers, with 216 men, are not attached to regiments, making the total strength of the standing army 19,457 officers, 472,498 men, 88,267 horses, and 1,538 field guns. The active army, divided into 19 army corps and 9 cavalry divisions, can double its numbers in time of war and be further increased by the 18 divisions of Landwehr, which on mobilization will be divided into a field army and a garrison army. The war strength in 1888 was estimated at 2,234,631 men, 3,358 guns, and 439,759 horses. This does not include the Landsturm, numbering about 700,000 trained men who can only be called out to defend the frontiers against foreign invasion. The active army on the war footing numbered, exclusive of surgeons and administrative officials, 22,377 officers and 942,408 rank and file, with 280,472 horses and 2,028 field pieces, and the reserve army had 9,536 officers and 354,915 men, with 72,963 horses and 648 guns, making a total force for field operations of 31,913 officers, 1,297,323 men, 353,435 horses, and 2,676 guns. This still left a garrison army of 16,209 officers and 868,627 men, with 86,324 horses and 882 field guns.

The infantry till 1890 were armed with the Mauser repeating rifle of the pattern of 1884, which weighs 11½ pounds with the bayonet, carries nine cartridges in the magazine, besides one in the chamber, and has an extreme range of 3,300 yards. Instead of the converted Mauser a new infantry weapon, adapted for smokeless powder and having a perfected Mannlicher mechanism, was approved in 1888. By the aid of improved machinery the factories at Spandau, Dantsic, and Erfurt produced the new rifles at a rate never before known. By Feb. 26, 1890, they were in the hands of the whole Ninth Corps, and before the end of the spring a large part of the infantry of the standing army had them, earlier than the French army was equipped with Lebel rifles, the manufacture of which was begun long before the German authorities had settled upon the best pattern. The reserves of the standing army were also armed with the

model of 1888, and the Landwehr of the first ban are expected to be supplied and trained before the end of 1891, the second ban and the Landsturm taking the discarded repeaters. In ballistic performance the new German rifle is said to be as good as any, and in its mechanism it is claimed to be technically superior to all other systems. It is purely a magazine rifle, with no arrangement for detaching the magazine and using it as a single loader. Five cartridges in a brass holder are inserted at once, and when all have been discharged, the holder falls to the ground. With five cartridges in the magazine, instead of ten, as in the old rifle, the gun balances better and the aim is more certain. To prevent injury from overheating the bore is coated with a hard substance invented by Major Mieg. The caliber is smaller than in the old rifle, being 8 millimetres. The ball, of nickel-coated steel, with a lead center, will penetrate a thin brick wall or breastworks a yard thick, but makes little impression on steel plates a third of an inch in thickness. At 1,000 yards it will pierce 10 inches of pine wood.

The empire has till now been divided into 17 territorial districts, each capable of mobilizing independently a complete army corps. The Guards, garrisoning Berlin and Potsdam, constitute another corps that is not territorially organized. The Fifteenth Corps, garrisoning Alsace-Lorraine, has been larger than the others. In January, 1890, a law was promulgated creating two new corps and dividing the country into 19 army-corps districts. Instead of one corps of unwieldy size in the Reichsland, Alsace and Lorraine each has its special corps, and in like manner East and West Prussia, on the eastern frontier, are made two separate army-corps districts.

Wilhelm II, while endeavoring to realize his ideas of personal government in social legislation, did not neglect the army, which was his first care on coming to the throne. A Cabinet order on the course of study in the school of cadets, issued early in 1890, directs that in teaching history the chief attention shall be given to modern times, and especially to all that concerns Germany and her position in the world, and that, by the side of the ancient classics, German literature, Germanic legends, and the works of national writers shall be cultivated, while other modern languages are to be studied only for practical purposes. Another order—issued with the object of putting a stop to the tyrannical treatment of private soldiers by officers—lays down the principle that every soldier ought to be treated with justice, and that his dignity should be respected, for only thus can he become inspired with love for the army, confidence in his commanders, and the spirit of self-sacrifice; and directs generals to report all cases of systematic maltreatment. On April 5 an imperial rescript was published which affords a new proof of the democratic tendencies of the Emperor, and of his desire to be a popular monarch. Until now the corps of officers has been recruited among the sons of noble families, members of the bourgeois class being systematically excluded from the artillery, engineers, and cavalry, and admitted only exceptionally to the infantry. Large private allowances are required for entrance into many of the regiments, and some of

the commanders require that candidates should possess superior scientific attainments. The increase of the cadets creates a great number of new commissions which can not be filled under such exacting conditions. The Emperor condemns the growing tendency to luxury and extravagant expenditure, and enjoins commanders to set the example of a modest way of living, and to require officers to restrict their personal expenses to a moderate scale. Candidates for the infantry, rifles, foot artillery, and pioneers must not be required to pay from their private means more than 45 marks a month; candidates for the field artillery are not expected to have a supplementary allowance of more than 70 marks, and cavalry officers not more than 150 marks. This scale must not be exceeded except in the Guards and in the officers' messes in some of the large garrisons. The standard of educational acquirements must not be made too strict. The spread of education among the German people makes it possible to widen the sphere in which officers should be recruited. The nobility can not claim at the present day the right of alone supplying the army with officers.

In June, 1890, the Reichstag was induced to pass a new army bill raising the peace effective to 486,983 men till April, 1894, 18,574 more than had been agreed on when the septennial budget was passed. The bill was long under discussion. It was strongly opposed by the Liberalists, the Democrats, and the Socialists, and the Centralists were with difficulty won over by the Government, 19 voting against it on its final passage. The chief reason for transcending the limit fixed in 1887 was the recent augmentation of the Russian and French forces. Gen. von Verdy du Vernois, in introducing the measure, acknowledged that it was only the first of a series of proposals for the complete reorganization of the imperial army. This was partly explained by Chancellor von Caprivi, who intimated a purpose of proposing next an army law by which all the youth of the country who could bear arms should undergo military training, without reducing the five years' term of service, in return for which the Government might accept quinquennial budgets fixing the strength of the forces at the beginning of each Parliament. Dr. Windthorst's resolution urging the Government to desist from its intention of extending military service to all who are capable of bearing arms, and to abolish the septennate and shorten the term of service, was adopted by a large majority, National Liberals, Conservatives, and Clericals who voted for it explaining that their vote was conditional. From Oct. 1, 1890, the army is to consist of 583 battalions of infantry, 465 squadrons of cavalry, 434 batteries of field artillery, 31 battalions of foot artillery, 20 battalions of pioneers, and 21 battalions of train. The field artillery is strengthened by 70 new batteries, or 420 guns, corresponding to the late additions to the French artillery. Of the 6,000 additional recruits that are to be drawn every year, those who are needed for this purpose will be used to complete the two new army corps stationed near the frontiers, the Sixteenth in Alsace-Lorraine and the Seventeenth in West Prussia, and to fill the cadres of the other corps that have been weakened in order to form their framework.

Another division is added to the Bavarian army. The bill entailed a non-recurring expenditure of 40,000,000 marks and a permanent addition to the military budget of 18,000,000 marks. It provides for rewarding non-commissioned officers with bounties, in order to induce men who are qualified to promote the instruction and discipline of the troops to remain in the army. The article in the German Constitution limiting the peace strength of the army to 1 per cent. of the population, although operative only till parliamentary legislation began, has generally been accepted as the maximum, and during the debate Gen. von Caprivi gave it as his opinion that the next census would show that this percentage had not been exceeded. Eugen Richter made a strong plea for a two years' term of service, but his motion was supported by none but the Freisinnige, Democratic, and Social Democratic parties. Another Government bill to increase the salaries of all officers up to and including the grade of major, as well as those of intermediate civil officials, failed of passage. The military expenditures already sanctioned rendered new taxes necessary. In the third supplementary budget, presented to the Federal Council in June, the Minister of War asked for 42,000,000 marks, of which 15,000,000 marks were for the artillery, 12,000,000 marks for drilling the reserves in the use of the new rifle, and the rest for the purchase of rifles, except a sum devoted to garrison buildings in Alsace-Lorraine.

Germany is divided into eleven fortress-inspection districts. In the Königsberg district are the first-class fortress or fortified camp of Königsberg, the coast forts at Memel and Pillau, and the fortress of Boyen; in the Dantsie district are coast fortresses at Dantsie, Colberg, Stralsund, and Swinemünde; the Posen district has two places of arms or fortified camps at Posen and Neisse, a minor fortress at Glatz, and a railroad blockade fort at Glogau. In the Berlin district are the first-class fortresses of Küstrin, Magdeburg, and Spandau and the forts for railroad obstruction at Königsstein and Torgau; the district of Mayence has three strong places of the first class in Mayence, Rastatt, and Ulm; in the Metz district the first-class fortress or fortified camp of Metz is flanked by the railroad-obstruction forts at Bitsch and Diedenhofen; the Cologne district has the fortified camps of Cologne and Coblenz, the fortress of Ehrenbreitstein, and railroad-blockade fortifications at Düsseldorf, Wesel, and Saarlouis; in the Kiel district, besides the first-class fortress of Sonderburg-Düppel, there are coast fortifications at the mouths of the Ems, the Elbe, and the Weser, and at Wilhelmshaven, Kiel, Friedrichsort, and Travemünde; in the Thorn district is a fortified camp at Thorn, with smaller fortresses at Graudenz, Marienburg, and Dirschau; the Strasburg district has the great fortress at Strasburg and minor works at Neu Breisach; in the Munich district is a first-class fortress to serve as a fortified camp at Ingolstadt, besides which the only effective fortifications are the works built to command the railroad at Gernersheim.

The Navy.—The German steam navy on March 31, 1889, including vessels in process of construction, but not yet completed, was composed as follows:

VESSEL.	No.	Guns.	Metric tons.	Horse-power.	Crews.
Ironclad ships.....	12	145	85,024	69,400	5,928
Ironclad gunboats.....	14	17	15,140	11,900	1,154
Frigate cruisers.....	8	121	25,490	25,100	8,800
Corvette cruisers.....	10	123	20,088	32,900	2,780
Cruisers.....	4	26	4,000	3,396	504
Gunboats.....	3	12	1,467	1,120	149
Avissos.....	7	18	8,569	21,550	825
School-ships.....	10	70	14,877	10,360	1,261
Other vessels.....	8	8	5,725	6,867	615
Total.....	71	537	186,196	188,597	16,559

The "Kaiser" and "Deutschland" are iron vessels with 10 inches of side armor carrying eight 23-ton and seven 4-ton guns; the "König Wilhelm," of 9,757 tons displacement, has 12 inches of armor at the water line, and is armed with eighteen 14-ton, four 12-ton, and seven 4-ton guns; "Friedrich der Grosse" and "Preussen," with 9-inch plates and 6,770 tons displacement, carry four 18-ton and two 6-ton guns; "Friedrich Karl" and "Kronprinz" have 5-inch armor and are armed with sixteen 9-inch guns; "Sachsen," "Bayern," "Württemberg," and "Baden," with iron hulls protected at the water line with 10-inch armor, have 7,400 tons displacement and 5,600 indicated horse-power, and carry eight 19-ton guns apiece; the "Oldenburg," built of iron and steel, has 11½-inch armor, and is armed with ten such guns. All these ironclads can steam from 12 to 14 knots an hour. The ironclad gun vessels for coast defense, having a displacement of 1,109 tons, are all plated with 8 inches of armor, and each carries a single 36-ton gun, except the "Arminius," of older type, which has 44-inch armor, and is armed with four 9-ton guns. The "Breuse" and "Brummer" are small deck-protected steel cruisers with a speed of 14½ knots, each carrying one 12½-ton gun; the "Irene" and "Prinzessin Wilhelm," built of steel and wood, and launched in 1887, are armed with fourteen 6-ton guns, and, having engines of 8,000 indicated horse-power, with a displacement of 4,400 tons, are designed to make 18 knots an hour. The German navy has 134 torpedo vessels of all kinds, including 5 gunboats of from 250 to 320 tons, capable of making 21 or 22 knots; 6 dispatch vessels of from 950 to 2,000 tons, built and engined for a speed of 16 to 21 knots; a torpedo ship and a torpedo tender, the latter launched in 1876 and the former in 1877; 63 torpedo boats of from 75 to 85 tons, capable of a speed of 20 to 22 knots; 49 torpedo boats of 50 tons, showing a speed of 18½ or 19 knots, and 9 small torpedo boats. The vessels building in the beginning of 1890 were 4 belted cruisers of 9,000 or 10,000 tons; 9 armored vessels for coast defense, having 3,800 tons displacement; 1 deck-protected cruiser of 4,330 tons and 8,000 horse-power; 1 torpedo gunboat of 2,090 tons and 5,000 horse-power, designed for a speed of 19 knots; 1 equally fleet torpedo dispatch vessel of 1,240 tons and 4,000 horse-power; and 2 fast gun vessels of 1,120 tons. A torpedo dispatch boat, the "Meteor," which was launched in January, 1890, is designed for a speed of 24 knots, and two more, of the same new type, are in construction, which will give the German navy 10 avisos, most of them of superior design, not including the new

imperial yacht that is being built at a cost of 4,500,000 marks.

Shipping and Navigation.—The merchant navy in the beginning of 1889 comprised 2,885 sailing vessels of 731,315 tons, and 750 steamers of 502,579 tons, making the total number of 3,635 vessels, with an aggregate tonnage of 1,233,894 tons. Of the sailing vessels 921, of 205,575 tons, and of the steamers 342, of 120,102 tons, belonged to ports on the Baltic, while 1,964 sailing vessels, of 525,740 tons, and 750 steamers, of 382,477 tons, belonged to North Sea ports. Of the total shipping, 2,255 vessels, of 354,213 tons, were Prussian. Of the total number of sailing vessels 8, and of the steamers 30 were over 2,000 tons; 173 sailing vessels and 155 steamers were between 1,000 and 2,000 tons; 276 sailing vessels and 164 steamers were from 500 to 1,000 tons; 1,004 sailing vessels and 193 steamers were from 100 to 500 tons; and 1,633 sailing vessels and 175 steamers were below 100 tons.

The total number of vessels entered at German ports in 1888 was 62,482, of 11,940,980 tons, of which 52,121, of 10,713,470 tons, were with cargoes, and of the latter 35,380, of 5,228,250 tons, were German, 4,892, of 3,304,449 tons were British, and the rest were mainly Danish, Swedish, Norwegian, and Russian. The total number cleared in 1888 was 62,605, of 12,022,619 tons, of which 46,618, of 8,723,212 tons, carried cargoes, including 33,393 German ships, of 4,694,058 tons, and 3,358, of 2,039,391 tons, sailing under the British flag. At Hamburg, 8,013 ships, of 4,405,966 tons, were entered; at Bremen, 2,212 ships, of 1,178,734 tons; at Stettin, 3,119 ships, of 1,043,972 tons; at Dantsie, 2,164 ships, of 631,942 tons; at Lübeck and Travemünde, 2,485 ships, of 493,130 tons; at Kiel, 3,006 ships, of 488,274 tons; at Königsberg, 1,770 ships, of 443,740 tons. Of the vessels engaged in the coasting trade and inland navigation, 20,390 in all, 19,989 had a tonnage of 2,100,705 tons.

Commerce and Production.—The general commerce in 1888 had a total value of 5,094,216,000 marks for imports and 4,863,031,000 marks for exports. The special imports were valued at 3,435,877,000 marks. The imports of live animals were 155,664,000 marks in value; of animal products, 81,022,000 marks; of articles of food and consumption, 751,287,000 marks; of seeds and plants, 42,596,000 marks; of fuel, 71,000,000 marks; of fats and oils, 215,279,000 marks; of chemicals, drugs, dyes, etc., 242,845,000 marks; of stone, clay, and glass wares, 51,193,000 marks; of metals and metal wares, 317,150,000 marks; of timber and wood manufactures, 170,696,000 marks; of paper manufactures, 14,226,000 marks; of leather and leather manufactures, 167,321,000 marks; of textiles and textile materials, 1,025,425,000 marks; of caoutchouc, etc., 28,402,000 marks; of machinery, instruments, etc., 49,960,000 marks; of hardware, 25,520,000 marks; of books, art works, etc., 26,291,000 marks. The special exports amounted to the sum of 3,352,602,000 marks. The exports of live animals were of the value of 94,507,000 marks; of animal products, 21,151,000 marks; of articles of consumption, 391,389,000 marks; of seeds and plants, 26,178,000 marks; of fuel, 115,099,000 marks; of fats and oils, 26,600,000 marks; of chemicals, drugs, etc., 236,

109,000 marks; of stone, clay, and glass wares, 117,409,000 marks; of metals and metal goods, 486,699,000 marks; of wood manufactures, 113,008,000 marks; of paper goods, 94,631,000 marks; of leather and leather goods, 236,922,000 marks; of textiles, 1,075,239,000 marks; of rubber goods, etc., 23,046,000 marks; of machinery, instruments, etc., 136,189,000 marks; of hardware, etc., 85,369,000 marks; of books, art works, etc., 72,396,000 marks; of other articles, 661,000 marks. The import of horses was valued at 74,877,000 marks; swine, 35,599,000 marks; wheat, 48,926,000 marks; rye, 58,753,000 marks; barley, 50,038,000 marks; coffee, 171,987,000 marks; petroleum, 841,626,000 marks; hides, 84,077,000 marks; raw cotton, 213,802,000 marks; raw wool, 247,287,000 marks; woolen yarn, 92,833,000 marks; raw silk, 102,836,000 marks. Some of the chief exports were hops, of the value of 33,365,000 marks; sugar, 158,937,000 marks; coal, 108,068,000 marks; aniline dyes, 40,055,000 marks; wood manufactures, 52,345,000 marks; paper, 57,393,000 marks; leather goods, 136,631,000 marks; coarse cotton cloth, 55,468,000 marks; silk and cotton mixed goods, 145,644,000 marks; woolen cloths, 166,996,000 marks; hosiery, 105,781,000 marks; trimmings, etc., 104,810,000 marks.

The commerce with the various foreign countries in 1888 and with the Hanse towns, which since Oct. 15, 1888, have formed a part of the Zollverein, is shown in the following table, values being given in German marks:

COUNTRIES.	Imports from	Exports to
German free ports	555,280,000	808,291,000
Great Britain	498,117,000	481,154,000
Austria-Hungary	434,578,000	829,781,000
Russia	456,492,000	199,627,000
Switzerland	148,289,000	163,928,000
Belgium	171,926,000	174,099,000
Netherlands	250,891,000	234,175,000
France	216,688,000	224,449,000
Italy	111,900,000	84,727,000
Norway and Sweden	49,918,000	69,267,000
Denmark	22,564,000	62,911,000
Spain	24,912,000	25,761,000
Balkan Peninsula	10,652,000	49,524,000
Portugal	8,985,000	8,172,000
India	88,428,000	8,457,000
Other Asiatic countries	10,876,000	30,702,000
Africa	15,891,000	10,188,000
North and Central America	158,268,000	249,984,000
South America and West Indies	119,322,000	89,864,000
Australia	20,493,000	12,022,000
All other countries	1,707,000	1,142,000
Total	3,435,877,000	3,852,602,000

The declared value of the exports to the United States in 1889 was \$88,994,712, an increase of \$4,152,741 over the total for 1888. The shipments of woolsens to the United States were valued at \$5,872,911; of silks and velvets, \$6,738,677; of linen, woolen, and cotton goods, \$1,871,993; of leather gloves, \$1,993,777; of yarns, \$754,914; of chemicals, colors, and drugs, \$6,368,935; of rags, \$1,132,933; of porcelain, china, and earthenware, \$1,750,046; of beer, wine, and liquors, \$1,990,369; of laces, \$664,517; of musical instruments, \$1,547,805; of trimmings, \$1,028,339; of paper manufactures, \$891,291. Of the total export of damask linen 87 per cent., of the window and mirror glass 77 per cent., of the leather gloves 61 per cent., of cotton hosiery 54 per cent., of rags 44 per cent., of half silk ribbons and shawls 41 per cent., of porcelain 40 per cent., of

wine 37 per cent., of musical instruments and of fine leather goods 35 per cent., of chloride of potash the same percentage, of potash and sulphuric acid 30 per cent., of liquors and of rubber goods 25 per cent., of wood pulp 23 per cent., of ground glass and of cement 22 per cent., of cotton laces and of aniline and other colors 18 per cent., and of alizarine 17 per cent., went to the United States in 1889. Of the total imports of petroleum 77 per cent. came direct from the United States, while Russia furnished only 9 per cent. The direct importation of raw cotton from the United States formed 46 per cent. of the total, that of Indian corn 50 per cent., that of lard 75 per cent., that of leaf tobacco 20 per cent., that of beef 23 per cent. Of the total imports from foreign countries, as measured by weight, but excluding coal, the United States furnished nearly 8 per cent., and of the total exports, besides coal, 4½ per cent. went to the United States.

Railroads.—The length of railroads open to traffic on Jan. 1, 1889, was 40,983 kilometres, or 25,450 miles, of which 35,440 kilometres were owned by the state. Excluding subsidiary lines, the network had a total length of 31,400 kilometres, of which 11,980 kilometres had two or more tracks. The Prussian railroads had a total length of 25,601 kilometres; the Bavarian, 5,395 kilometres; those of Saxony, 2,437 kilometres; of Würtemberg, 1,598 kilometres; of Alsace-Lorraine, 1,467 kilometres; of Baden, 1,393 kilometres; of Hesse, 1,016 kilometres; of Mecklenburg-Schwerin, 889 kilometres; of Oldenburg, 389 kilometres; of Saxe-Weimar, 282 kilometres; of Saxe-Meiningen, 257 kilometres; of Brunswick, 134 kilometres; of all the other states, 125 kilometres. The Union of German Railroads, founded Nov. 10, 1846, and placed, on July 1, 1884, under the direction of the Railroad Department of the Prussian Government, regulates the traffic under arrangements agreed on between the various governments and railroad administrations on all the lines of Germany, Austria, Holland, Luxemburg, and Russian Poland, and on some of the railroads of Roumania and of Belgium, having 71,054 kilometres under its supervision on Jan. 1, 1889. The capital outlay on German railroads on March 31, 1888, when their total length was 24,036 miles, was 9,938,253,000 marks. The receipts for the year were 1,094,442,000 marks and the expenditure was 587,973,000 marks, leaving a profit equal to 5·17 per cent. on the capital. The receipts from 124,730,000 tons of freight were 752,157,000 marks; from 295,759,000 passengers, 295,007,000 marks; and from other sources, 47,278,000 marks.

The Post-Office and Telegraphs.—The imperial postal and telegraph administration embraces all the German states excepting Bavaria and Würtemberg, a total land area of 445,240 square kilometres, having a population in 1885 of 39,440,320 persons. The number of letters carried by the imperial post-office in 1888 was 828,045,650; postal cards, 270,201,460; printed inclosures, 269,879,980; samples, 20,196,200; newspapers, 391,164,588; money forwarded, 16,459,873,033 marks. Adding the traffic of the separate Bavarian and Würtemberg administrations, there were 955,511,690 letters, 296,452,200 postal cards, 294,835,030 printed inclosures, 22,488,840 samples, and 724,781,010 journals carried

in the mails, and 18,671,840,914 marks sent by post-office orders. The receipts of the imperial postal and telegraph administration in 1889 were 201,122,478 marks, and the expenses 174,580,481 marks; the receipts of all three administrations were 227,002,525 marks, and the expenses 196,556,855 marks. The telegraph lines of Germany in the beginning of 1889 had a total length of 57,763 miles, of which 50,293 miles were under imperial administration, with 157,703 miles of wires; 5,548 miles, with 24,230 miles of wires, in Bavaria; and 1,922 miles, with 4,800 miles of wires, in Würtemberg. The number of internal telegrams sent in the imperial postal district was 13,838,152, besides 671,596 official dispatches; in the whole of Germany there were 15,515,351 paid and 1,086,814 official inland messages forwarded in 1888, and of international messages there were 3,127,716 sent, 3,359,255 received, and 1,001,187 forwarded in transit.

Protectorates.—In the beginning of 1890 countries embracing an area estimated at 952,720 square miles, with 1,590,000 inhabitants, had been taken under the protectorate of the Emperor of Germany in Africa, and in the Pacific the islands belonging to Germany had an area of 92,725 square miles, with a population of about 340,000. Togoland, on the Slave Coast, with the territories of Porto Seguro and Little Popo, had an area of 7,800 square miles with 40,000 inhabitants. The only trade is in palm oil and ivory. The Cameroons region, on the Bight of Biafra, besides these articles, exports cacao and tobacco, grown by the German Plantation Society. The Cameroons protectorate has a coast line of 190 miles, and extends inland from the Rio del Rey creek to a point east of Yola, on the upper Benue, and in the south from the mouth of the Campo river to 15° of east longitude, the area being estimated at 115,000 square miles and the population at 500,000. In Togoland an import duty on European goods was imposed in August, 1887, producing in the year ending March 31, 1889, 167,000 marks. In Cameroons the duty, which has been collected since Jan. 1, 1888, produced for the same period 76,000 marks. The expenditure in Togoland for that year was 178,000 marks, and in Cameroons 94,000 marks. The boundary between the Togo protectorate and the British Gold Coast colony was delimited near the coast by commissioners in July, 1886. Afterward disputes arose as to the possession of the Krepi country on Volta river. In the agreement of July 1, 1890, the territory was divided so as to give the northern part, with Kpandú, Towé, Kowe, and Agotiné, to Germany, and the southern part, including Aquainoo and Peki, to Great Britain, in accordance with a provisional arrangement made in 1888, on the recommendation of the boundary commissioners. The boundary line runs northward to 6° 10' of north latitude, follows that parallel westward to the river Aka, ascends that river to 6° 20', runs westward to the river Shavoe, follows that stream till it reaches the parallel which it follows westward to the confluence of the Deine and the Volta, and thence it ascends the Volta to its confluence with the Dakka, where begins the neutral zone agreed on in 1888. There is no river corresponding with the Rio del Rey as marked on the maps, and agreed on as the boundary

between Cameroons and the Oil Rivers territory of Great Britain, and therefore a provisional line of demarkation has been adopted, running from the head of the Rio del Rey creek to 9° 8' of east longitude. Neither Germany nor Great Britain shall interfere with the free passage of goods without payment of transit dues to the north of the river Benue to and from the shores of Lake Tchad, and each power promises to notify the other of any treaties made with the native tribes north of the Benue. The difficulties in the Volta districts did not end with the delimitation. When the Germans sent a force in September to take possession of the Vosi district that had been conceded to them, it was attacked by the Krepis, and was compelled to withdraw with several wounded. In the Cameroons region the Germans have had difficulty in exploring the interior, because the coast tribes resent any attempt to communicate with the tribes beyond, fearing that their trade profits will be lost. Lieuts. Kund and Tappenbeck were both wounded in attempting a journey inland, the latter fatally. Dr. Zuitgraff has since explored the plateau and mountain ranges and penetrated to a considerable distance east of Yola. In the Bali country and in Adamawa he saw an abundance of domesticated buffaloes, maned sheep and fowls, while wild animals are very numerous, especially elephants, antelopes, and chimpanzees. Iron ore is plentiful in the mountains, and the Bali are skilled in extracting and working iron. More recently Lieut. Morgen led an expedition into the rear country of the southern Cameroons, taking only two months to reach Jaunde station and return to Batanga by descending Tanaga river, which is a new route. He passed around the Dualas, who are the most obstinate defenders of their privileges as middlemen, and were at the time carrying on a determined conflict with the traders in Malimba, to prevent them from going up the Tanaga. Lieut. Morgen's party had a fight with the Malimba tribes, and compelled them to retreat with heavy losses. It is believed that the resistance of the trading tribes is now broken, and that it will be possible to open the lower Tanaga to direct trade.

A customs union between the German and French establishments on the Gold Coast went into effect on March 15, 1890, and will continue from year to year unless abrogated by either Government on six months' notice before the end of any year. Gin is taxed 2 to 5 cents a litre; rum, 1 to 2 cents; powder, 1½ cent a pound; firearms, 24 cents each.

German Southwest Africa, sometimes called Lüderitzland, at the close of 1889 embraced an area of 430,000 square miles, and had an estimated population of 800,000. By the Anglo-German agreement of 1890 the limits have been extended eastward (see CAPE COLONY). A large part of the southern region, known as Namaqualand, is waterless. In German Damara-land, including Ovamboland and Kaokoland, the country, especially in the interior, is suited to grazing. The expenses of the commissioner of the German Government in 1888-'89 were 22,000 marks. The Germans have been able to make little use of these extensive territories, and there are not more than 200 Germans settled in the

country. The Southwest Africa Company has been impeded in its operations by the British and Cape Colonists, who conduct all the profitable enterprises there are in the country, and through their influence with the natives have endeavored to make the position of the Germans unbearable, at the same time offering to reimburse their losses by purchasing all their rights. Prince Bismarck refused to allow such a transfer, and in the summer of 1890 Chancellor von Caprivi withheld the desired permission to sell their territory to an English company. In the negotiations of 1890 the German Government endeavored, without success, to obtain the cession of Walvisch Bay, the only good harbor. By an agreement made with the Portuguese Government on Dec. 30, 1886, the Germans were permitted to extend their colony to the Zambesi. The English desired to include in their sphere Ngamiland, which is rich in minerals and very fertile, and the whole country of the Western Bechuanas, and in order to satisfy the Cape Colonists by securing these territories, and induce the Germans to withdraw from the Souali coast and abandon all hopes of gaining a foothold on the upper Nile, Lord Salisbury was willing to cede Heligoland. North of 22° of south latitude, the country between 20° and 24° of east longitude was not effectively occupied by either power, while both had claims based on treaties with the natives. By the agreement three quarters of this region, including Lake Ngami and the whole of Moremi's country, falls to Great Britain, and the other quarter, consisting of the poorest land, to Germany, who obtains on the north along the eighteenth parallel, which is the Portuguese boundary, a strip reaching to the Chobe and the Zambesi, which shall in no part be less than 20 miles wide. North of this strip, which is 300 or 400 miles long, are the Barotses and the Makololo, on territory recognized as Portuguese *Hinterland*.

German East Africa at the beginning of the year had an estimated area of 430,000 square miles and a population of 800,000 natives. The boundaries have since been altered and greatly extended by the Anglo-German agreement (see EAST AFRICA). The value of the exports during the year ending Aug. 17, 1889, was 2,847,100 rupees, the principal articles being ivory for 1,197,251 rupees, gum copal for 364,289 rupees, and caoutchouc for 306,805 rupees. The tobacco culture at Lewa, in the Usambara mountains, which was interrupted by the insurrection of the coast tribes, was resumed in 1890 by skilled planters from East Prussia and Sunatra. On June 24 the Reichstag passed supplementary estimates for East Africa which included 4,500,000 marks for military expenses in suppressing the slave trade, that is, for Major Wissmann's campaign against the Arabs, and a subvention of 350,000 marks for a line of steamships between Hamburg and the ports on the coast of Zanzibar and Mozambique, more than half the export trade of the Portuguese colony being in German hands. The merchants who have been obliged to ship their goods by the British India line or the Castle Mail packets have hitherto found it advantageous to buy in English markets or in Bombay. A direct line will therefore benefit German industry. The steamers will run as far as Dela-

goa Bay, enabling Germans to compete for the trade of the Transvaal Republic. The company, which receives a subsidy of 900,000 marks annually, besides the line of monthly packets, agrees to establish a line of coast steamers to call at Bagamoyo, Saadani, Pangani, Tanga, Dar-es-Salaam, Pemba, and Mombassa. After the conclusion of the Anglo-German agreement surveys were begun for two railroads from the coast of Zanzibar to the lakes, and capital was subscribed to place a steamer in Lake Nyassa and another in Lake Tanganyika. The ivory trade revived as soon as the rebellion was crushed and the caravan routes reopened. The Plantation Society resumed operations with success on the Sigi river, back of Tanga. Bagamoyo was soon repopulated with a steady population of 15,000 persons, more than it had before the hostilities. This place and Tanga and Dar-es-Salaam were rebuilt with rectangular streets, and the solid houses, the enforcement of sanitary ordinances, the mounted patrols, and the street lanterns gave them the appearance of European towns. In the neighborhood of Bagamoyo cotton planting has been begun by a company of which Emin Pasha is the head. The French missionaries who have been established in this fertile district for a quarter of a century cultivate cotton, tobacco, cacao, coffee, vanilla, and indigo. In March, the German authorities, on the ground of the difficulty of defending it, closed the caravan route through Massailand that the British East African Company had used, which runs through German territory from Pangani to Kilimandjaro. Ivory pays a transit duty of 15 per cent. to the German Company. After the transfer of Witu and the Somali coast to the British company, some Germans were murdered by the inhabitants, and two British and two German men-of-war went to the spot to exact reparation. On Aug. 1, the Sultan of Zanzibar, at the instance of the British consul-general, issued a proclamation absolutely prohibiting the exchange, sale, or purchase of slaves, decreeing severe punishment for slave brokers or persons found in possession of slaves acquired subsequent to the date of the proclamation, and declaring all slaves free on the death of their present masters, and those owned by persons subject to British jurisdiction to be free immediately. This proclamation caused an insurrection, and it was afterward modified. It created disquietude among the German officials, who feared that it would lead to a new rising, and who therefore took care to dissociate themselves from the English policy, and to let it be understood that the German coast region, though still under the nominal sovereignty of the Sultan, was not affected by his decree. The interdiction of all sales of domestic slaves would depreciate the value of landed property on the coast, because it is customary to regard the slaves on an estate as attached to the soil and to sell them with the land. The enforcement of the decree was not attempted in Zanzibar, except to the extent of closing the public slave marts, because it would bankrupt the Arab land owners and the Indian merchants who have advanced money on the security of their slaves, and would produce a serious perturbation in a country where the institution of domestic slavery is so deeply rooted that many slaves are themselves the owners of

other slaves. In September it was reported that the German authorities in Bagamoyo had published a proclamation authorizing the free sale and purchase of slaves for export by sea, the capture or importation of raw slaves alone being forbidden. This action, which struck a blow at English influence and prestige in East Africa, was strongly denounced by the British press. Dr. Schmidt, the vice-commissary, denied that he had signed or authorized the proclamation, which was said to have been posted in the custom houses at Bagamoyo and Dar-es-Salaam by the commanders of the stations, and sales were reported as taking place daily under licenses granted by them, the open market being transferred from Zanzibar to those places. An article in the official "Reichsanzeiger" explained that it appeared hazardous, after peace and order had been again established and after the inhabitants had begun to grow accustomed to their new conditions, to undertake measures which, striking as they do at the social and domestic condition of the people, contain grounds of incitement to new disorders, and claimed the right for the German Government, which is as determined as before to oppose relentlessly and by all possible means not only slave hunting but also commercial slave dealing, in full conformity with its obligations under the treaty of Brussels, to choose the moment that it may deem favorable for the further limitation of existing slavery.

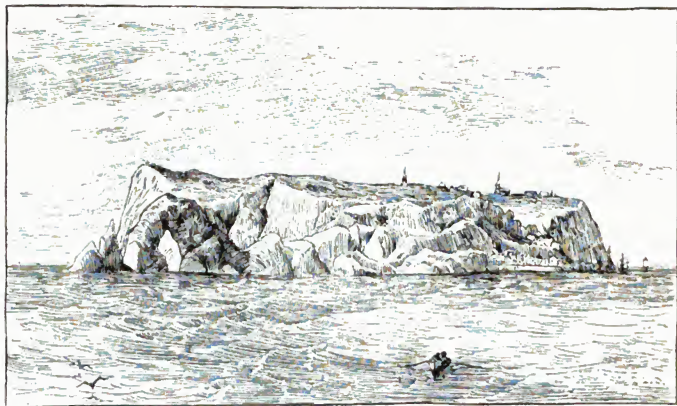
In the western Pacific, Germany possesses the northeastern part of New Guinea, called Kaiser Wilhelmsland, with Long Island, Dampier Island, and other small islands near the coast, the total area being 70,000 square miles and the population about 20,000, with the Bismarck Archipelago, the Marshall Islands, and that part of the Solomon Islands lying north of the boundary agreed on between Germany and Great Britain on April 6, 1886. In Kaiser Wilhelmsland tobacco has been grown with success, and horses, cattle, and goats can be profitably reared. The Bismarck Archipelago comprises the Neu Pommern group, formerly called New Britain, Neu Mecklenburg, formerly New Ireland, and Neu Lauenburg, formerly known as the Duke of York Islands, with Vischer, Admiralty, Anchorite, Hermit, and other islands. The chief exports are copra and the fiber of the coco-nut. The aggregate area of the protectorate is 15,625 square miles, with a population of about 250,000. The German islands of the Solomon group, the chief of which are Bougainville, Choiseul, and Isobel or Mahaga, have an area of 5,700 square miles and a population of 80,000. Sandalwood and tortoise shell are exported. The Marshall group consists of two chains of coral islands, on which the coco-nut palm grows in perfection. Including Navodo or Pleasant Island, the islands contain about 10,000 inhabitants. The German territory in New Guinea, the Bismarck Archipelago, and the German half of the Solomon Islands were administered by officials of the New Guinea Company until by the decree of May 6, 1890, all judicial and administrative authority was transferred to the imperial commissioner.

In the beginning of April, 1890, was established a Colonial Department of the German Ministry of Foreign Affairs, over which was

placed Dr. Krael, whose first important business was to arrange with Sir Percy Anderson the details of the Anglo-German African agreement. The new department is under the direction of the Secretary of State for Foreign Affairs in all matters in which the interests of other powers are involved, but in regard to the organization of the protectorates and all purely colonial affairs it receives directions from the Chancellor. During the debate on the supplementary estimates for East Africa, in answer to Herr Bamberger's statement that the Imperial Government had paid out 19,000,000 marks for colonial purposes, Chancellor von Caprivi said that expenditures for ships of war ought not to be included in such an estimate, and that the actual expenditure of the Government on the colonies till then had been 5,500,000 marks, while private enterprise had invested 21,000,000 marks in transmarine colonization.

Heligoland.—The island of Heligoland, which was ceded to Germany by the British

boating, letting lodgings, and supplying food and services to the summer visitors. The island formerly belonged to Denmark. In 1807 it was taken by the English, who used it to store goods and smuggle them into the Continental markets in spite of the Berlin decrees of Napoleon against English commodities. By the treaty of Kiel, in January, 1814, Denmark formally ceded the territory to Great Britain. The British Government desired to retain it partly because of its proximity to Hanover, then united to England in the person of the sovereign, and partly because of its supposed strategical value. In 1821 the garrison was withdrawn and no attempt has been made to fortify it, British military authorities having always pronounced against such a course. It has no harbor, but has an open roadstead, which is unsafe in the prevailing north-west winds. While the cession was under discussion, some military authorities asserted that it would be worth a fleet to England in case of a war with Germany, while others held it to be of



HELIGOLAND.

Government in compensation for territorial concessions in Africa, lies in the bay inclosed by the coast of Germany and the peninsula that ends in Denmark, about 20 miles from the nearest shore, and 25 miles from the mouth of the Elbe. It is a rocky isle, about three quarters of a square mile in extent, inhabited by a Frisian people nearly identical in speech and race with the population of Schleswig. In 1881 they numbered 2,001. The sea bathing attracts about 13,000 visitors, mostly from north Germany, during the summer. The revenue in 1888 was £8,132 and the expenditure £7,544. The administration has been by a governor receiving £800 salary, assisted by an executive council. For a large part of the year the island has served as the rendezvous for the English fleet engaged in the North Sea fisheries. The people carry on fishing and lobster catching, but live mainly by

no value as a coal depot to a blockading force, as England was near enough, but rather a source of weakness, since it would expose England to the humiliation of having it captured on the very day of the declaration of war, and in case of a war with any other power it would require the constant presence of a naval force to defend it. German and French critics agreed that in the event of a war between their countries, the possession of a fortress on Heligoland by Germany, guarding the mouths of the Elbe and the Weser and the great naval arsenal at Kiel, would set free an army corps. Since the establishment of the German Empire the desire to possess this Gibraltar of the North Sea has been ardent and its continued possession by Great Britain has caused a feeling of impatience and even of resentment. In the Anglo-German agreement provision was made for the continuance of the existing customs

duties for twenty years, for the preservation of the rights of British fishermen on the island, for the exemption from military service of all the present inhabitants, and for a like exemption for the children of those who declared that they would remain British subjects. The people were opposed to the transfer, not only because the German military and tariff laws were less favorable than those of England, but because their land would be likely to be taken as a site for fortifications, and perhaps the sea bathing that gave them profitable employment would be interfered with. In the treaty it was stipulated, at the instance of the Emperor, that the transfer should receive the assent of the British and German Parliaments. When the bill for the cession of the island came up for discussion in the British House of Commons, Mr. Gladstone and Sir W. Vernon Harcourt, with many of their followers, refused to vote, declaring that the Conservative ministry had tampered with the Constitution and abandoned the treaty-making prerogative of the Crown by submitting the question of a cession of territory to the decision of the two Houses of Parliament. The weight that the Germans have attached to the acquisition of Heligoland, for which Prince Bismarck has repeatedly offered substantial compensation, suggested the suspicion, when the island was handed over to the Emperor after his dismissal of the old Chancellor, for what seemed an inadequate consideration, that some secret pact or alliance was at the root of the transaction. On Aug. 9 the British Governor, Arthur C. S. Barkly, received Herr von Bötticher, the representative of the German Government, and on the following day the Emperor landed, hoisted the German flag, and formally took possession in a speech in which he said: "This island is chosen as a bulwark of the sea, a protection to German fisheries, a central point for my ships of war, and a strong place and harbor of safety in the German Ocean against all enemies who dare to show themselves upon it." In a proclamation he promised protection to the rights of the Heligolandians under the form of government that he would decide to establish, an impartial administration of justice, the perpetuation, as far as would be possible, of their ancient laws and customs, exemption from military and naval service of all living males, and the inauguration of a policy designed to promote their welfare and the economic value of the island.

Dissolution of the Reichstag.—The seventh and last triennial Parliament was ceremoniously closed by the Emperor on Jan. 25 in a speech in which he referred to the decease of his father and grandfather, and said that the rapid changes had peacefully been passed through only by the aid of a lofty manifestation of loyalty and monarchical feeling on the part of the nation and the wisdom and patriotism of the Reichstag in strengthening and placing on a secure footing the defensive power of the empire, enabling it, with the weight due to its authority in the council of nations, to strive successfully in preserving the blessings of peace and civilization. He expressed satisfaction at the extension of trade guild privileges, facilitating the co-operation of artisans for their mutual welfare, and at the further realization of his grandfather's ideas

in the extension of accident insurance and the amalgamation of the old-age and invalid insurance laws, thus providing for the needy and the indigent in a manner calculated to have a good effect on the internal peace of the country. "On the foundations already laid," he said, "we shall be able to go on building in order to convince the working classes that the legislative authorities have a warm heart for their just interests and desires, and that a satisfactory change in their condition can be accomplished in a peaceful, legal, and orderly way, and not otherwise." He expressed a hope that the succeeding Reichstag might succeed in devising effective means for accomplishing the necessary reforms in this field, and said that he should make it his serious task and that he regarded it as his highest duty to promote this end. No word of regret or of reproach was pronounced regarding the rejection of the Anti-Socialist bill. Prince Bismarck wished, instead of renewing the exceptional law from year to year, to have it permanently embodied in the common law of the land. If the Cartel Brothers, or the union of the two Conservative parties and the National Liberals, who had formed a fusion before the last general election, had been as harmonious and submissive as when they voted the septennate bill and other important Government measures he could have had the permanent anti-Socialist law in the form that he wished in spite of the hostility, not only of the Social-Democrats, whom he strove to suppress, but of the Clerical, Freisinnige, and People's parties. The Old or German Conservatives and the Free Conservatives, otherwise called the Reichspartei or Imperialists, were willing to vote for any measure that the Chancellor deemed necessary for his purpose, although some of the latter disapproved the clause that the National Liberals declined to vote, which gave the police power to expel any troublesome Socialist from the district in which he resided. A majority were opposed to intrusting discretionary powers, for the reason that the manner in which the administrative authorities and the police had applied the laws against the Socialists appeared in their eyes a danger to the public liberties. The discussion took place while the details brought out in a monster trial of Socialists at Elberfeld were fresh in the mind of everybody, which Herr Bebel, the Socialist Deputy, used with telling force against the Government, but which Herr Herrfurth, the Prussian Minister of the Interior, advanced as an argument that Social-Democracy continued to be as deep rooted and dangerous as ever it was. Of 87 persons who were tried, 44 were condemned to from forty days to eighteen months of imprisonment, among whom was the Deputy Harn, while the rest, including the Deputies Bebel, Grillenberger, and Schunmacher, against whom unusual efforts were made to inculcate them in the charge of belonging to a secret association, were acquitted. The indictment was framed on an article of the criminal code making it a criminal offense to take part in an association that conceals its existence, constitution, or objects from the public authorities, or that seeks to oppose by illegal means the operation of the laws or the authority of the public officers. At the trial it was shown that the system of police spies and *agents provocateurs*, the exposure of

which had cost Herr von Puttkamer his portfolio as Minister of the Interior a few months before, was still employed, and that the Government had in its pay men like Weber and Wimmers who gave fictitious information to the police. One of the last speeches in the final debate on the bill was made by Prince Carolath-Schönau, a Free Conservative, who astonished the House by condemning the methods in which the repressive measures were carried out, describing how a magistrate had construed a poem praising a laborer for sacrificing his life to save a railroad train from destruction as a dangerous publication calculated to stir up class hatreds, and expressing the conviction that there was much truth in Herr Liebknecht's boast that the Social-Democrats were the idealists of the nation, and that in a time of materialism and of obsequious truckling for office unselfish aims and popular ideals should be encouraged. Stripped of the expulsion clause, the bill passed, on Jan. 23, 1890, on the second reading by 116 to 111 votes. It was unacceptable to the Chancellor with this clause expunged, and in order to relieve the Government of the odium of withdrawing or vetoing the bill the Old Conservatives, on the final reading, voted with the Opposition, and the bill was rejected by 169 to 68. As soon as the vote was announced Herr von Bütticher, as representing the Chancellor, read a message from the Emperor summoning the Deputies to the Schloss to be formally dismissed to their homes, an invitation with which not more than one third of those present complied.

The Imperial Decrees.—The intention of the Emperor to deal with the social question by means of constructive rather than by repressive measures was made clear in two decrees that were issued on Feb. 4. One of them, which was addressed to the Chancellor, ran as follows:

I am resolved to lend my hand toward bettering the condition of German workmen as far as my solicitude for their welfare is bounded by the necessity of enabling German industry to retain its power of competing in the world's market, and thus securing its existence and that of its laborers. The relapse of our native industries through the loss of their foreign markets would not only deprive the masters but also their men of their bread. The difficulties in the way of an improvement in the lot of our workmen, which are founded on international competition, can only be lessened, if not altogether surmounted, by means of an international agreement between those countries who dominate the world's market. In the conviction that other governments also are animated by the wish to subject to a common examination the aspirations about which the working men of these countries are themselves already carrying on international negotiations, it is my will that official inquiry be made by my representatives, primarily in France, England, Belgium, and Switzerland, whether these governments are disposed to enter into negotiation with us with a view to coming to an understanding as to the possibility of complying with the wants and wishes of the laborers as manifested by them during the strikes of the last few years and otherwise. As soon as my proposal is agreed to in principle I shall empower you to invite the Cabinets of all the governments who evince the same interest in the labor question to a conference for the purpose of further discussing it in detail.

The other decree, which was addressed to the Ministers of Commerce and of Public Works, reaffirmed the Emperor's resolution to continue

his grandfather's programme of economic reform, which had not yet been developed far enough to produce a sufficient improvement in the lot of the laboring classes. To this end the insurance laws must be extended; the factory laws ought to be revised in regard to the effects on the health, morality, and needs of the working people of the duration and nature of their work; they should be enabled to give expression to their desires and grievances through accredited representatives, who would act the part of negotiators and mediators in labor disputes; the state mines of Prussia should be made model institutions in respect to the welfare of the workers employed in them, and private mines ought to be subject to the inspection of the mining officers of the Government. Neither of the decrees was countersigned by the Chancellor, or by the Ministers of Commerce or of Public Works, contrary to constitutional usage. Only a few days before Prince Bismarck, whom at the new year the Emperor had greeted with praise for his self-sacrificing and creative energy in the field of solicitude for the working classes, and with the hope he would enjoy for many years the advantage of his approved and faithful counsels, had resigned the post of Prussian Minister of Commerce, being succeeded by Baron von Berlepsch, a magistrate who had refused to call in the aid of the military in dealing with the striking miners in the Rhine province. It was now surmised that the old Chancellor had laid down this office because he was unwilling to stand by the Emperor in his course of social experiments. The Emperor called together the Council of State for the purpose of an investigation of the measures to be taken for the better regulation of the conditions of the working classes, and when it met on Feb. 14 he directed the sections intrusted with the inquiry to examine with the aid of experts what protection should be afforded workmen against arbitrary and unlimited exploitation of their capacity to labor, what restrictions should be placed on child labor, and the situation of female laborers from the point of view of morality and domestic life, with other labor questions, and also how far the national industry could support the addition to the costs of production resulting from stricter regulations in favor of the laborers and still hold its position in the markets of the world. He wished them to study the means for securing the further development of state industrial institutions that would serve as examples of effective solicitude for the workmen. The Emperor presided over the meetings of the Council of State, before which experts were called from both the employing and the laboring classes.

The Election.—The date of the general election was set for Feb. 20, at an interval from the close of Parliament less by two weeks than usual, and only one day after the parliamentary period expired. The Cartel parties, which had obtained an absolute majority in the last Parliament, were no longer harmonious, and the Emperor, whose name was dragged into their quarrels by the press, intervened to declare that he had no preference as between the three parties, but that he desired their union and success. This direct appeal to the voters had an effect contrary to what was desired, and the imperial

decrees, which were expected to lead to the confusion and disintegration of the Socialist party, made no difference in their numbers or discipline. They and the Clericals were the only well-organized parties. In 1881 the Socialist vote was 311,961. In 1884, polling 530,000 votes, they increased their representation in the Reichstag from 13 to 24 Deputies. In 1887 their popular vote was 774,000, and yet only 11 members were elected, because the Government parties made a strong and united effort to defeat their candidates in the final or test elections, and in many districts Liberalists voted for Conservatives or Conservatives for Liberalists in order to prevent the return of Social-Democrats. In 1890, when the Emperor vied with the Socialist leaders in projects for the elevation and happiness of the working people and when National Liberal papers joined the Progressist and Clerical press in protesting that the masses of voters who held Socialistic theories, however much in error, had an equal right of representation with other parties, the idea that it was a patriotic duty to sink all differences in combating the Social-Democracy no longer prevailed, except among the Old Conservatives whose zeal for the preservation of the "Church, monarchy, and family" did not save them from the Emperor's rebuke when they raised the question in their organ of receding from the Cartel. The anti-Socialist law was vigorously applied by the Government in the suppression of meetings and of campaign literature. The results of the election more than realized the worst fears of the Government. The Socialists obtained 20 seats in the first ballot, with a chance of securing 33 more, a good number of which could not be wrested from them. In Berlin they polled 125,000 votes out of 230,000. Singer, the Socialist leader, who had been expelled from the capital, was re-elected by 79,000 votes, and Janeczewski, a Polish book-binder, who had suffered imprisonment, led Prof. Virchow by 2,000 plurality. In Hamburg, which like the capital has constantly had the minor state of siege, they won every seat, and Leipzig, Dresden, Magdeburg, Altona, Chemnitz, Munich, Breslau, and nearly every town with a large industrial population they carried by large majorities. The Cartel parties, which had a working majority of 23 in the last Reichstag, were in a hopeless minority, and Prince Bismarck had no means in sight for escaping a legislative deadlock except by a possible combination with the Center, involving a fresh pilgrimage to "Canossa." The Progressists, whom Bismarck had nicknamed "Retrosgressists," and had often denounced with scathing invective as foes of the empire, showed considerable gains, while the National Liberals returned to the Reichstag with their ranks seriously diminished, and of the Free and the German Conservatives some of the leaders lost their seats. The Alsatian Protest party largely abstained from voting, and in consequence four members favorable to German rule were elected. The first ballots gave indecisive results in more than 240 districts. In the second ballots the Radicals or Liberalists, who had dwindled from 100 members in 1884, when the party was founded, to 35 in the late Parliament, were aided by the Cartel parties, electing Prof. Virchow and the other three candidates in Berlin who disputed

their seats with Socialists and wherever choice lay between them and the revolutionary party.

The following is a comparison of the popular vote given for the various parties in 1887 and 1890: Old Conservatives, 1,194,504 votes in 1887 and 919,546 in 1890, a loss of 274,958; Free Conservatives, 693,195 in 1887 and 457,936 in 1890, a loss of 235,259; National Liberals, 1,658,158 in 1887 and 1,169,112 in 1890, a loss of 489,046; Catholic Center, 1,627,095 votes in 1887 and 1,420,438 in 1890, a loss of 206,657; Progressists, 549,302 votes in 1887 and 1,147,863 in 1890, a gain of 598,561; Democrats or Popularists, 109,372 in 1887 and 131,438 in 1890, a gain of 22,066; Poles, 213,626 in 1887 and 245,852 in 1890, a gain of 32,226; Alsace-Lorrainers, 347,654 in 1887 and 100,479 in 1890, a loss of 247,175; Independents, 25,903 in 1887 and 97,109 in 1890, an increase of 71,206. The Government parties in 1887 polled 3,545,857 and their opponents 3,647,080 out of a total of 7,192,937 popular votes. In 1890 the whole vote of the country was 7,031,360, or 161,577 less than in 1887, and of this the Cartel parties obtained only 2,546,594, or 999,263 less than in 1887, while the Opposition parties received together 4,484,766 ballots, a gain of 837,686. The strength of the parties in the new Reichstag is as follows: German Conservatives, 72 members, 6 less than in the late Parliament; Free Conservatives, 19 members, 20 less; National Liberals, 43 members, 50 less; Liberalist, Radical, or Freisinnige party, 67 members, 32 more; Ultramontanes or Centrists, 107 members, 4 more; Poles, 16 members, 3 more; Alsace-Lorrainers, 10 members, 4 less; Social-Democrats, 35 members, 24 more; Independents, 18 members, including 11 Guelphs, 1 Dane, and 5 Anti-Semites, against 11 altogether in the last Parliament.

The Retirement of Prince Bismarck.—The impetuous and ambitious young Emperor in his attitude toward the coal strikers and in his army decrees had shown that the advice of Dr. Hinzpeter, his old tutor, and of Count Waldersee, his chief of staff, was preferred to that of Prince Bismarck, with whose indiscreet display of temper in connection with the Geffcken incident he was profoundly dissatisfied. The Chancellor's views on the labor question were not shared by Wilhelm II, who aimed to combine the monarchical traditions of the Hohenzollerns with advanced modern ideas. The idea of protection for laborers and of interference in the conditions of work and wages was one that Bismarck had openly condemned. In the field of colonial politics also the Emperor had taken the reins out of his hands, increasing the military forces in East Africa by several thousand men, appointing Emin Pasha Governor-General, and involving the Government in further responsibilities in Southwest Africa. By publishing without the indorsement of his chief minister the rescripts of Feb. 4, he manifested a determination to be his own Chancellor that made Prince Bismarck's continuance in office impossible, especially after the defeat of the Government parties in the elections, which necessitated new combinations in regard to which his opinions and those of the monarch must inevitably clash. At the time when the Emperor convened the State Council he prepared the public for his early

retirement by expressing a desire to resign the presidency of the Prussian ministry. This office he had given up for a time in 1873; but the necessity of controlling the decisions of the Federal Council by instructing the Prussian representatives obliged him to resume it. The state of friction that long existed was cloaked by an interchange of formal compliments, but after the elections the two strong wills came into violent collision, and the Chancellor, having no longer an obedient majority in the Reichstag to uphold him, found the opposing force too strong to resist. When he entered into negotiations with Dr. Windthorst, the Clerical leader, looking to parliamentary co-operation on the condition of the restoration to the Duke of Cumberland of the sequestered moneys of the King of Hanover, known as the Guelph fund, and the surrender of the remaining May laws, the Emperor showed his displeasure at the Chancellor's dealing with the parties without his concurrence, and through his unofficial counselors, treated with the chiefs of the Clerical party independently. This produced the final rupture, a serious difference having already arisen between them on the constitutional question of the relations of the individual Secretaries of State to the King. The Cabinet order of Sept. 8, 1882, has always been construed by Prince Bismarck as meaning that the President of the Ministry shall appoint his own Cabinet, choosing men having political opinions and principles in harmony with his own, and that the sovereign can only deal with the ministers collectively through the President. This was not the obvious interpretation of this decree, and in the spirited correspondence on this point the King insisted that it assured the responsibility of the various ministers, not to the President, but to the Crown direct. When the King appointed Baron Berlepsch Minister of Commerce and inaugurated through him an economic policy at variance with the views of the head of the Cabinet, and when he consulted and instructed the other ministers on matters connected with their departments, Prince Bismarck warmly remonstrated, insisting on his constitutional right to control and direct the ministry. The opposition that he encountered in this matter made clear to him the necessity of resigning; nor did the Emperor attempt to persuade him to remain when he asked leave on March 18 to lay down his three offices of Chancellor, President of the Prussian Ministry of State, and Minister of Foreign Affairs, having announced his decision on the preceding day in a meeting of the Prussian Cabinet. In the letter accepting his resignation the Emperor expressed deep regret and disappointment, and intimated that attempts had been made to induce him to withdraw his request, but withheld from publication the document in which the departing Chancellor explained his reasons for resigning. Bismarck, through his press organ, at once denied that any effort had been made to dissuade him from his determination. The Emperor conferred on him the rank of field marshal and the title of Duke of Lauenburg, and asked him to accept the continuance of his official emoluments. The military promotion he accepted in deference to the principle of army discipline, but he rejected the offer of a con-

tinuance of salary and the possession of the official residence at Berlin, although Count Moltke accepted similar gifts on retiring from the post of Chief of the General Staff, and declined the ducal title on the plea that his fortune was not sufficient to support it. The doubts and agitation occasioned in Germany and abroad by the departure of the statesman who had guided the policy of Prussia and of Germany for twenty-eight years were not allayed by the revelations that the ex-Chancellor made to representatives of the press. He would not allow the public to suppose that he had resigned his offices voluntarily or that his unofficial advice would continue to be sought or tendered, but made public the fact of his virtual dismissal and criticised the courses into which the Emperor was determined to enter. His utterances on the subject of foreign politics were so frank and bold that Chancellor von Caprivi sent a confidential circular to the representatives of Germany abroad stating that Prince Bismarck did not reflect the views of the German Government. It is supposed that a threatening intimation was sent to the ex-Chancellor, and secret police measures are said to have been taken to prevent journalists from gaining access to him at Friedrichsruhe. Fears of a change in foreign policy were dispelled by the Emperor, who said that the course of the ship of state would be the same as of old, and apprehensions of hazardous experiments were quieted by the reassuring speeches of the new Chancellor, who, in introducing himself to the Prussian Chamber of Deputies, expressed his conviction that the edifice reared under the fostering care, genius, iron will, and intense patriotism of Prince Bismarck, has a firm foundation and strong joints, able to resist the force of wind and weather now that his supporting hand is withdrawn, and that the personality of the young monarch will fill the gap caused by his retirement.

The Emperor was willing to let the anti-Socialist law expire, and to allow the Socialists freer breath. At a banquet of the Provincial Diet of Brandenburg on March 6 he had prefaced a toast with the declaration that he had adopted the principles of the message of 1881 as his own, and, following his grandfather's footsteps, had made the welfare of the inferior classes of his subjects his chief care. "Those who will aid me are heartily welcome, whoever they may be; but," he added, "those who oppose me in this work I will crush." For some time after his retirement the newspapers that were faithful to the deposed Chancellor discussed the question of his entering the Reichstag (the seat for Kaiserslautern being offered to him) in order to criticise and restrain his successors, or becoming a representative for one of the smaller states in the Federal Council, where he still had enough influence, it was believed, to prevent the lapse of the anti-Socialist law. The "*Hamburger Nachrichten*," reflecting his views, predicted a sanguinary insurrection when the restraints on the proletariat were removed, followed by the pitiless renewal of repressive measures to prevent fresh troubles and the infection of the army with Socialism.

The New Chancellor.—The Emperor accepted Prince Bismarck's resignation on March 20,

and on the same day Gen. von Caprivi, commander of the Tenth Army Corps, was appointed his successor in the chancellorship and in the presidency of the Prussian ministry, and the direction of the Ministry of Foreign Affairs was intrusted provisionally to Count Herbert Bismarck; but he and the ex-Chancellor's other son insisted on retiring with their father. Georg Leo von Caprivi de Caprera de Montecuccoli, descended from Italian ancestors and the son of an eminent jurist in the Prussian state service, was born in Berlin on Feb. 24, 1831, entered the army before he was eighteen years old, won rapid promotion, entered the general staff as captain in 1861, served with distinction in the campaigns of 1864 and 1866, and was lieutenant-colonel and chief of staff of the Tenth or Hanoverian Corps in the Franco-German War. After the war he took charge of one of the divisions of the Ministry of War with the rank of colonel. He became a major-general in 1877, commanded a brigade in the Guards in 1878, was made a lieutenant-general in 1882, and, when commanding the division stationed at Metz in 1883, was transferred to the navy as Gen. von Stosch's successor at the head of the admiralty. In directing the growth and organization of the new German navy he gave evidence of a high order of executive ability and of versatile powers, determination of character united to amiable and winning manners, and a gift for presenting facts and arguments to the Reichstag in a clear and persuasive style. When the navy was reorganized after the accession of the present Emperor, Gen. von Caprivi returned to the army, in which he retained his rank and order of seniority, and, being promoted full general of infantry, was appointed to the command of one of the best corps in the army, and during the autumn manoeuvres of 1889, when smokeless powder and other innovations were on trial, the conduct of his troops gave the Emperor a high opinion of his capacity. As chief of the admiralty he opposed some of the Emperor's projects, such as the use of the naval forces to aid colonial undertakings, the division of the marine department, and the offensive organization; but in this he acted under the instructions of the Chancellor, his official superior.

When Count Herbert Bismarck left the Foreign Office he was succeeded by Herr von Marschall Bieberstein, formerly a Conservative member of the Reichstag, and since 1883 a representative of Baden in the Federal Council. The other members of the Imperial and the Prussian Cabinets who were closely identified with Prince Bismarck's policy likewise resigned. These were Dr. August von Maybach, Imperial Minister of Railroads and Prussian Minister of Public Works, and Adolf von Scholz, Prussian Minister of Finance, who was succeeded by Dr. Miquel, Burgomaster of Frankfurt, a member of the National Liberal party and one of the men whose advice the Emperor most frequently sought.

Chancellor von Caprivi informed the Prussian Chamber that the various members of the Cabinet would be restored to the footing of constitutional equality and direct responsibility to the Crown, which was the system before the ex-Chancellor became Minister-President. He also announced the abolition of the semi-official press that was much complained of during the Bis-

marck administration, and was called in derision the "reptile" press, and forbade the administrative officers to communicate information to newspapers other than the official "Reichsanzeiger." The Government, he said, would adopt good ideas, from whatever party they emanated.

The Session of the Reichstag.—The Reichstag, which was to bear the first fruits of the "new era," very different in personal composition and political complexion from the last, and confronted by another Chancellor, was opened on May 6 by a speech from the Emperor in which he placed at the head of the legislative programme an extension of the laws for the protection of laborers, announcing measures for Sunday rest, restriction of female and child labor, protection of workmen against dangers to life, health, and morals, new regulations regarding workmen's books destined to strengthen the authority of parents over unruly juvenile laborers, and a better regulation of the boards of arbitration and conciliation in trade disputes. The strikes that had taken place in various parts of the country during the year had given him occasion to examine whether the existing laws took sufficiently into account the justifiable and practicable desires of the laboring population. The more the working people recognize the conscientious earnestness with which the Imperial Government strives to create satisfactory conditions for them, the more will they become aware of the danger of putting forward immoderate and impossible demands. In a righteous solicitude for the laborers will be found the most effective means of strengthening the authority which he and his Federal allies were determined to employ with inflexible resolution in frustrating every forcible attempt to disturb law and order. He had invited the other states of Europe in which the conditions of production were similar to an exchange of views regarding a common recognition of the legislative requirements for the protection of laborers, and the results of the International Conference on Labor had given him complete satisfaction. The principles laid down in its resolutions were undoubtedly a seed that would fructify in blessings for the working men of all countries, and not fail to have a harmonizing effect on the relations between nations. The preservation of peace is the object of his unintermitting effort, and he could confidently affirm that he had strengthened the conviction of all foreign governments that this was his policy. For the cultivation of the alliances concluded for defense and the continuance of friendly relations with all foreign powers, the situation of Germany in the center of Europe renders necessary an adequate army. Every alteration in the ratio of military power endangers the political equilibrium, and since the neighboring states had increased and perfected their armaments in an unforeseen measure, Germany could not afford to postpone an increase in the standing army and the formation of additional bodies of troops, especially in the artillery. A supplementary credit was necessary to cover the costs of suppressing the slave trade and restoring order in East Africa. An augmentation of the budget would be required for these purposes, besides which the improvement in the pay of certain classes of officials could be no longer delayed.

The Center, and even the Freisinnige, accepted the reasons given for increasing the army, and the necessary votes were obtained without according the counter-demand for a shortening of the term of service with the colors to two years. In colonial matters the Center voted with the Government. The proposed increase in the salaries of the subordinate state officials was not approved, more especially since provisions were tacked on for raising the pay of army surgeons and all regimental officers up to and including the rank of major, involving altogether a permanent addition of 20,000,000 marks to the annual budget. The recommendations of the Berlin Conference were embodied in a bill to amend the Factory act. The Socialists complained that the bill fell short of the promises contained in the Emperor's decrees on the labor question, and that the employing classes had influenced the measure adversely. They proposed that a maximum work day should be established by law, which should be ten hours for a certain period and be then reduced to nine, and eventually to eight hours. Baron von Berlepsch replied that the fixing of legal limits to the hours of labor, although debatable, was not feasible under present circumstances, as precipitate action would injure German industry. The Reichstag adjourned on July 2, to resume the consideration of this and other legislative proposals in November.

As a concession to the Clericals, the Prussian Government introduced a bill in the Diet in regard to the disposal of the *Sperrgelder*, or ecclesiastical subventions that were stopped in 1875, in consequence of the attitude of the clergy toward the May laws, and have since been withheld. The Government proposed to retain the capital sum, amounting to 16,013,731 marks, but to pay interest on it at the rate of 3½ per cent. for the purposes of the Church. If the Clericals were satisfied with this arrangement, the Cartel parties were prepared to vote for it, but since they voted against it, demanding the repayment of the capital, the ministerial parties voted in the same way, which resulted in the defeat of the measure on June 7. The annoying passport rules that were adopted by Prince Bismarck to aid in the Germanization of Alsace-Lorraine, by keeping out Frenchmen, were mitigated in June to the extent of permitting the transit of travelers having tickets to destinations beyond Kehl, on the Rhine. Prince Bismarck's policy in denouncing the settlement treaty with Switzerland was reversed, and a new treaty was concluded.

The anti-Socialist law expired on Sept. 30, having been in force twelve years. The persons who had been expelled from their homes under its provisions, some of whom were members of the Reichstag, all returned, and the return to free conditions was made the occasion of a jubilee. Herr Liebknecht assumed the editorship of the "Volkshlatt," the chief party organ, which was established in Berlin. On Oct. 12 a general convention of the party was convened in Halle, and 360 delegates, including 20 from abroad, were present. It reaffirmed the Gotha programme of 1875, as modified by the subsequent Congress at Wyden. This declares that the products of labor, which is the source of all wealth, belong to society, and that all its members—it being the duty of all to work—have

equal rights in proportion to their reasonable requirements; that the emancipation of labor requires the conversion of the means of production into the common property of society and the social regulation of labor; and that this emancipation must be the work of the working class. The party declared itself in favor of co-operative societies established by the state for the purpose of preparing the way for the solution of the labor question, and demanded universal and equal suffrage, universal obligation to military service, decision by the people on war and peace, free administration of justice, and universal, compulsory, and gratuitous education, with equal rights for all, and no public religious instruction.

Change of Ministry in Bavaria.—Baron J. von Lutz, who has been Minister-President and Minister of Public Worship in Bavaria since 1868, has found it impossible to resist the Clerical reaction that set in after the reconciliation of the Catholics and the Government in Prussia, and the revival of Clerical influence in Austria. In 1889 he was compelled to make an important concession in the matter of obligatory religious instruction in schools, and only with difficulty was he able to maintain intact the royal right of *placet*. The Ultramontanes, who have pressed for a recall of the official condemnation of the doctrine of Papal infallibility, vigorously assailed the minister when he prevented a Catholic Congress from assembling in Munich on the ground that it would lead to Clerical demonstrations hostile to the Government, and Baron von Lutz, whose health was poor, resigned on May 30, and was succeeded as Minister-President by Baron von Crailsheim, and as Minister of Worship by Dr. von Müller, President of Police at Munich.

Medical Congress.—The tenth International Medical Congress met at Berlin on Aug. 4, according to the resolve of the preceding triennial Congress at Washington in 1887. One of the French delegates, Dr. Huchard, declined to take part because Prof. Virchow, who was the president, would not retract what he had written in 1871 regarding French Chauvinism, and the cry was taken up by other French doctors and journalists, whose efforts did not prevent 179 French medical scientists from going, of whom 34 were delegates. There were about 2,500 doctors from German lands and an equal number from abroad, representing 23 foreign states. The United States of all these contributed the largest contingent, being represented by 659, while 358 came from the British Islands. More than 600 papers were read before the various sections. Prof. Virchow in his opening address discussed sanitary reform, and described the sewerage of Berlin, on which 138,000,000 marks have been spent, and the utilization of the sewage to fertilize 19,000 acres of land controlled by the authorities, on which workhouse inmates are trained to be self-supporting laborers, and a net profit of 238,000 marks was obtained in 1889. Sir Joseph Lister read a paper on antiseptic surgery. Dr. Horsley one on surgery of the brain. Prof. Koch one on bacteriology with especial reference to the curability of tuberculosis, and others were presented by Signor Bacelli, Dr. Wood, and other eminent scientists. Prof. Virchow informed the Congress that he had been asked to institute an

international system of hygiene, and for this purpose he had made arrangements for an international sanitary conference to be held under the patronage of the Government. The Congress broke up on Aug. 10, after deciding to hold the next meeting in Rome in 1893.

GIRLS' CO-OPERATIVE BOARDING HOMES. Popular novels and other books have depicted the life of working girls in large towns. Among these may be mentioned Walter Besant's "Children of Gibeon," and Helen Campbell's "Prisoners of Poverty." The working hours often exceed twelve, with poor pay, dingy surroundings, brutal treatment, and, looming above all, the constant danger of irreparable misfortune. The authors generally suggest co-operation as a radical remedy, and that word is the active principle of the girls' boarding homes. It is easy to see that fifty girls or more, living together, paying no rent, and buying provisions at wholesale prices, may lead a comfortable existence on a sum that would doom them to misery were they living apart. Very few of the homes date farther back than 1866, and none, so far as known, earlier than 1849. They sprang up in rapid succession from 1866 to 1870, but the majority are later than 1880. They are evidently an outgrowth of the progressive concentration of industries, bringing many young women together in factory towns. At first they were intended to shelter the unemployed and destitute, but gradually they developed into boarding houses, giving room and board at cost to employed and unemployed. In most of them it is understood that a girl who loses her place will continue to receive room and board on credit until able to pay. The self-supporting homes can not, with any sort of propriety, be called charities. The fortunes of these institutions have been exceedingly various. The largest—that of the Young Women's Christian Association of Boston—has grown in twenty-four years to a value of \$279,000, and a capacity of 300, and many others show a record nearly as brilliant. On the other hand, many lead a precarious existence, and many have perished. The fatal mistake of some consisted in admitting indiscriminately the virtuous and the fallen. It has passed into an axiom that the two classes must be treated separately. A few endowed institutions admitting both classes still exist, but they have been excluded from the list here given. Another cause of wreck was overstrict regulations, driving away all but the most needy. There may be some justice, though hardly much generosity, in requiring obedience in return for charity; but in a self-supporting institution any regulations going beyond the requirements of simple propriety are a manifest injustice. Perhaps "suggestions" substituted for "regulations" might solve the problem. The conditions for entrance, besides the uniform requirement of good character, are various. Many homes have an age limit, admitting none below fourteen or above thirty. Some exclude all whose weekly earnings exceed \$6. In some the weekly charge is graduated according to the girls' income. Thus, at the Primrose Home, in New York, girls earning \$1 a week pay 25 cents, and so on upward to \$2.50, paid by girls earning \$5. In the Sacred Heart Home, Cincinnati, only the matron

knows what each girl pays. The difficulty arising in regard to those arriving without credentials has been solved in some cities by establishing two separate homes—one for regular boarders and one for transients. The latter home receives those who can furnish no reference, and from it they may be transferred to the other as soon as satisfactory evidence as to character has been obtained. Those who receive board at less than cost are generally required to assist in housework. Nearly all the institutions have a religious cast. One of the regulations generally is that the boarders are "expected" (in some cases "invited") to be present at family prayer and to attend some church on Sunday. One home contents itself with a parlor organ, forbearing the purchase of a piano, not for reasons of economy, but because that instrument is "too worldly." Other regulations are: Lights to be extinguished at a certain hour, generally 10 P. M.; inmates required to rise and retire not later than specified hours, nor to go out without obtaining leave and giving the object of going out and the time required. Some have specified hours for the admission of visitors. Gentleman friends are allowed to call at specified times, and the girls are allowed to go out in the evening "with proper escort." One institution invites gentleman friends to an entertainment once a week; another, once every fortnight. Several reports mention with evident satisfaction the number of marriages that have taken place "from the home." Most of the homes furnish instruction of some kind—in sewing, cooking, child-nursing, reading, writing, arithmetic, stenography and type-writing, drawing, elocution, and singing. The larger ones have gymnasiums, that of Boston numbering 1,000 students. All such instruction is given either free or at a nominal charge. The training schools for domestic service established in some homes are a very recent and very interesting experiment, which has already met with brilliant success. At the Boston Home 20 girls are received at a time, given room and board free of charge, have their own parlor, kitchen, and dining-rooms, and remain three months, during which time they learn all varieties of housework. Employers meet them there, become acquainted with them, and are enabled to make suitable selections. Many homes also maintain employment bureaus. The dining-rooms and laundries, besides serving the needs of the inmates, are in some cases made a source of revenue by admitting customers from outside. Nearly every institution has its library and reading-room. The library of one, which may well pass as representative of its class, was found to contain, besides religious works and novels, a surprisingly large number of historic, philosophic, and scientific books. On its tables were seen, besides the current illustrated magazines, several of the graver periodicals, such as the "Popular Science Monthly," the "North American Review," the "Forum," and the "Scientific American." Many homes serve at the same time as club houses to girls not residing in them. "Holiday houses," are generally transitory, being rented for the summer, and the stay of each visitor being limited to about two weeks. A few permanent ones are given in the list. The more important institutions own their buildings, though

generally they are encumbered. To arrive at ownership, "so as to save rent." is the one great ambition of the others. The following list, compiled for this article, is believed to be nearly, if not quite, complete. It is intended to include only those institutions that require unblemished character as condition of entrance. W. C. A. indicates Women's Christian Association; Y. W. C. A., Young Women's Christian

Association; L. C. U., Ladies Christian Union. The term "self-supporting" should not in equity include rent, interest, taxes, or extensive repairs. Several institutions answering "not self-supporting" were found on inspection of their expense accounts to be practically self-supporting, as here defined. These are marked with an asterisk. To render the list more useful, a few lodging houses have been added.

City.	Name.	Address.	Weekly charge.	Self-supporting.
Atlanta, Ga.	Home of the Friendless.	153 Mangum St.	Variable.	No.
Baltimore, Md.	Y. W. C. A.	221 N. Liberty St.	\$2 50	Yes.
"	St. Vincent's Home.	108 N. Front St.	\$2 50	Nearly.
"	Girls' Home (Henry Watson).	826 N. Calvert St.	\$0 50-\$2 00	No.
"	Female Christian Home.	416 N. Greene St.	\$3 00	Yes.
"	St. Paul's House, St. Paul's Parish.	869 Cathedral St.	\$3 00	Yes.
Boston, Mass.	Y. W. C. A.	65 Warren St.	\$3 50-\$5 00	Yes.
"	Y. W. C. A.	40 Berkeley St.	\$3 50-\$5 00	Yes.
"	Girls' Friendly Society, Episcopal Church	51 Temple St.	\$3 00-\$4 00	Yes.
"	Temporary Home for Working Women.	453 Shawmut Ave.	\$3 00	No.
"	Working Girls' Home.	84 Dover St.	\$1 50-\$4 00	Yes.
"	Boston Industrial Temporary Home.	15 Davis St.	15 cts. meal or lodging.	Yes.
"	New England Helping-Hand Home.	127 Charles St.	\$2 00-\$3 00	No.
"	Working Girls' Club.	401 Shawmut Ave.	\$3 00-\$3 50	Yes.
Bridgeport, Conn.	Temporary Home for Women and Children.	248 Main St.	Variable.	No.
Brooklyn, N. Y.	Business Women's Home.	574 Atlantic Ave.	\$3 00-\$4 00	Yes.
"	Girls' Home.	80 Willoughby St.	\$4 00-\$6 00	Yes.
"	Girls' Home.	8 Poplar St.		Yes.
"	Temporary Home for Friendless Women and Children.	20 Concord St.		Free.
"	Home Association for Working Women and Girls.	252 Pacific St.	\$3 00	Nearly.
Buffalo, N. Y.	W. C. A.	10 Niagara Square.	\$2 50-\$4 00	Yes.
"	Catholic Home for Young Girls.	66 Franklin St.	\$3 00	Yes.
Charleston, S. C.	Home for Motherless Widows, and Daughters of Confederate Soldiers.	Broad St.	Variable.	No.
Chicago, Ill.	W. C. A. Boarding Home.	288 Michigan Ave.	\$3 50-\$4 00	Yes.
"	Strangers' Home.	362 W. Jackson St.		Yes.
"	Home for Self-Supporting Women.	275 Indiana St.	\$2 25-\$4 00	No.*
"	St. Joseph's Home.	409 S. May St.	\$2 00-\$5 00	Yes.
"	Hotel Minnetonka.	189 E. Huron St. near Wells.	\$2 10	Yes.
Cincinnati, Ohio.	W. C. A.	100 Broadway.	\$3 00-\$3 50	Yes.
"	Vacation Cottage.			No.
"	Sacred Heart Home.	140 and 142 Broadway.	\$1 00-\$2 70	Yes.
Cleveland, Ohio.	W. C. A.	16 Walnut St.	\$3 12-\$4 50	Yes.
Columbus, Ohio.	Girls' Industrial Home.	64 S. 4th St.	\$2 50-\$3 00	Nearly.
Denver, Col.	Mercy Home.			No.
Des Moines, Iowa.	Home for Self-Dependent Women.			Nearly.
Detroit, Mich.	Home of the Friendless.	Warren Ave. near Woodward	Up to \$1 00.	Yes.
"	Young Woman's Home.	Clifford St. and Adams Ave.	\$2 50	Nearly.
Fort Wayne, Ind.	Home for Emergencies.	144 Pritchard St.		No.
Fort Worth, Tex.	Fort Worth Benevolent Home.	547 Samuels Ave.		Yes.
Germantown, Pa.	W. C. A.	4781 Germantown Ave.	\$3 25	Yes.
Halifax, N. S.	W. C. A.			Yes.
Hartford, Conn.	W. C. A.	58 Church St.	\$3 00-\$3 50	Nearly.*
"	Heart's Ease Co-operative Summer Home.			Yes.
Indianapolis, Ind.	Friends' Boarding Home.	889 E. Market St.	\$5 00	Yes.
Kansas City, Mo.	Y. W. C. A.	Troost and 11th Sts.	\$3 00-\$4 00	No.*
"	Mercy Home.			Yes.
Kingston, Canada.	W. C. A. (lodging).			Yes.
Lincoln, Neb.	W. C. A.	2 homes.	\$1 50-\$4 00	No.
Louisville, Ky.	Young Women's Boarding Home.	530 First St.		No.
"	Home of the Friendless.	504 W. Kentucky St.		Free.
"	St. Ann's Home.	723 4th Ave.	\$2 50	No.
Lowell, Mass.	Home for Young Women.	10 John St.		No.
Memphis, Tenn.	W. C. A. Young Women's Boarding Home.	438-435 Shelby St.	\$1 00-\$3 00	Yes.
Meriden, Conn.	Curtis Home.	Crown St.		Free.
Minneapolis, Minn.	W. C. A.	409 6th St. S.	\$3 00-\$4 00	Yes.
"	W. C. A. (Branch Home).	817 Nicollet Ave.		No.
"	St. Elizabeth Home.	825 6th St. S.	\$2 70-\$3 00	Yes.
Montreal, Canada.	W. C. A.			Yes.
"	Home for the Friendless.			Yes.
Newark, N. J.	W. C. A. Girls' Boarding Home.	35 Clinton St.	\$2 50-\$3 50	Not quite.
New Haven, Conn.	Y. W. C. A.	558 Chapel St.	\$3 50-\$5 00	No.
New Orleans, La.	Claborne Home for Working Girls.	72 Claborne Ave.	Variable.	No.
New York, N. Y.	L. C. U. Young Women's Home.	27 Washington Square, N.	\$3 00-\$5 00	Not quite.
"	L. C. U. Branch Home for Women.	808 Second Ave.	\$3 00-\$5 00	Yes.
"	Y. W. C. A. Margaret Louisa Home for Protestant Young Women.	14-16 E. 16 St.		Yes.
"	Temporary Home for Women.	54 Second Ave.	\$2 00 (lodging)	Nearly.
"	Laura Home.	120 Second Ave.	\$4 00-\$6 00	Yes.
"	Primrose Home for Young Girls.	856 W. 39d St.	Up to \$2 50.	No.
"	Free Home for Destitute Girls.	23 E. 11th St.		Free.
"	Shelter for Respectable Girls.	148 W. 14th St.	\$3 00	No.
"	Girls' Temporary Home.	27 St. Mark's Place.	\$1 50	No.

City.	Name.	Address.	Weekly charge.	Self-support- ing.
New York, N. Y.	St. Barnabas Home for Friendless Women	304 Mulberry St.		Free.
"	Home for the Friendless	32 E. 30th St.		Free.
"	Temperate Woman's Bureau (lodging).	234 W. 4th St.	15-20 cts. a night.	No.
"	Women's Lodging House.	6 Livingston St.	15-30 cts. a night.	Yes.
"	St. Joseph's Home.	149 W. 14th St.	Variable	No.
"	St. Clare	25 W. 16th St.	\$3 00-\$6 00	Yes.
"	Society for Aiding Self-Supporting Women	441 W. 24th St.	\$3 00-\$5 00	Yes.
"	Young Women's Home Society (French).	382 W. 18th St.	\$4 00	Yes.
"	New York Colored Mission.	135 W. 80th St.	10 cts.	No.
"	Home for Friendless Colored.	187 W. 32d St.	10 cts. and up.	No.
"	Holiday House.	Miller's Place, Long Island.	\$3 00	Not quite.
"	Holiday Harbor.	Miller's Place, Long Island.	\$3 00	Not quite.
"	Holiday House, Brookside Farm.	Mountainville, N. Y.	\$3 00	Not quite.
"	Harper Seashore Cottage.	North Long Branch.		
"	Holiday House, Feeks Farm.	Bayville, Long Island.	\$2 00	No.
Norfolk, Va.	Young Women's Boarding Home.	197 Church St.	\$2 00	No.
Omaha, Neb.	Young Women's Home.	109 S. 17th St.	\$3 00-\$4 50	No.
Philadelphia, Pa.	Y. W. C. A.	1117 Arch St.	\$3 00-\$4 50	No.
"	Y. W. C. A. Holiday House, "Sea Rest"	Asbury Park, N. J.	\$3 25	Yes.
"	Y. W. C. A. Holiday House, Whelan Memorial Home.	Bristol, Pa.	\$2 50-\$3 00	Yes.
"	Boarding Home for Young Protestant Women.	913-915 Clinton St.	\$3 00	No.
"	Boarding Home for Young Women.	1431-1433 Lombard St.	\$3 00	No.*
"	Temporary Home for Women and Children.	505 N. 6th St.	\$2 50-\$3 00	Not quite.
Pittsburg, Pa.	Temporary Home for Destitute Women.			Nearly.
Portland, Me.	W. C. A. Young Women's Home.	26 Spring St.	\$3 00-\$3 50	Yes.
Portland, Ore.	Portland Women's Union	308 F St.		
Providence, R. I.	Y. W. C. A.	66 Fountain St.	\$3 00	Yes.
"	Y. W. C. A. (Branch Home).	56 Mathewson St.	\$3 00	Yes.
"	Y. W. C. A. Seaside Cottage.	Conanicut Park, Newport, R. I.	\$3 00	Yes.
"	Y. W. C. A. Children's Cottage.	Conanicut Park, Newport, R. I.	\$1 00-\$2 00	Yes.
"	Holiday House, "Rest Cottage" (Buttonwood's Beach, R. I.).	167 Broad St., Providence, R. I.	\$3 00	Yes.
"	Holiday House.	Bartlett, N. H.		
Pueblo, Col.	Woman's Benevolent Union.	Victoria Ave.	\$1 25 (lodging)	Yes.
Quebec, Canada.	W. C. A.	125 Anne St.	\$1 00-\$4 50	No.*
Richmond, Va.	W. C. A.	619 E. Main St.	\$2 00	Nearly.
Rochester, N. Y.	W. C. A.	118 Franklin St.	\$2 50-\$3 00	No.
"	W. C. A. Girls' Lodging House (lodging).	72 Sophia St.		
"	Home for Transients.	40 Exchange St.		Yes.
St. Louis, Mo.	W. C. A. Women's Christian Home	1814 Washington Ave.	\$3 25-\$5 00	Yes.
"	W. C. A. Women's Training School (Boarding Department).	313 N. 4th St.	\$3 00-\$4 50	Yes.
St. Paul, Minn.	Young Girls' Home.	620 St. Peter St.	\$2 50	Yes.
"	St. Mary's Home.	318 Somerset St.	\$3 00	Yes.
San Francisco, Cal.	Y. W. C. A.	1221 O'Farrell St.	\$3 00-\$6 00	No.
"	San Francisco Girls' Union.	714 B'ah St.	\$3 50-\$5 00	Yes.
"	Girls' Directory	581 Post St.	\$2 00	No.
Spartanburg, Pa.	Home of the Friendless Women and Children.	725 Adams Ave.	Variable	No.
Syracuse, N. Y.	W. C. A. Boarding Home.	19 Bliss St.	\$3 25-\$4 50	Yes.
Toronto, Canada.	Y. W. C. A.	515 S. Salina St.	\$2 50-\$3 00	Yes.
Utica, N. Y.	W. C. A. Industrial Home.	38 Duke St.	\$2 00-\$2 50	No.
Washington, D. C.	Young Women's Christian Home.	21 Court St.	\$2 50	Yes.
Wheeling, W. Va.	W. C. A.	404 6th St. N.W.	\$2 00-\$3 00	No.
				No.

GREAT BRITAIN AND IRELAND, a monarchy in western Europe. The legislative power is exercised by Parliament, consisting of the House of Peers and the House of Commons. The roll of the Upper House contained 554 names in 1889. Of the hereditary peerages about two thirds were created during the present century, and only 19 date beyond the sixteenth century. There are 18 Scotch and 63 Irish peers who have no seats in Parliament. The Lower House consists of 670 members, who are elected for the duration of each Parliament, which has a constitutional limitation of seven years and can be dissolved at any time by royal decree. The average duration since the beginning of the century has been less than four years. Of the total number 253 are elected for English, 39 for Scotch, and 85 for Irish county constituencies, 237 for English, 31 for Scotch, and 16 for Irish boroughs, and 5 for English, 2 for Scotch, and 2 for Irish universities. In 1889 there were 2,704,035 county, 1,934,414 borough, and 15,287 university electors in England and Wales, making

a total of 4,653,736; 321,415 county, 237,073 borough, and 15,584 university electors in Scotland, a total of 574,072; and in Ireland 647,728 county, 102,661 borough, and 4,156 university electors, a total of 754,545. An act of Parliament that is renewed annually provides that all voting shall be by secret ballot. English and Scotch peers, clergymen, Government contractors, and all sheriffs and election officers are ineligible to the House of Commons.

The executive authority is supposed to be vested in the Crown, yet practically it is exercised by the Cabinet, the members of which are selected by the Prime Minister, who retains his office only so long as his policy is sustained by the House of Commons. In case of an adverse vote on a Cabinet question he may appeal to the country by dissolving Parliament. The Prime Minister is usually a member of the Lower House, filling the office of First Lord of the Treasury. The present chief of the Cabinet is the Marquis of Salisbury, sitting in the House of Lords, who holds at the same time the office

of Secretary of State for Foreign Affairs. The leader of the House of Commons and First Lord of the Treasury is W. H. Smith. The other members of the Cabinet, which was constituted on Aug. 3, 1886, are as follow: Lord High Chancellor, Lord Halsbury, formerly Sir Hardinge S. Giffard; Lord President of the Council, Viscount Cranbrook, formerly Gathorne Hardy; Chancellor of the Exchequer, George Joachim Goschen; Secretary of State for the Home Department, Henry Matthews; Secretary of State for War, Edward Stanhope; Secretary of State for the Colonies, Lord Knutsford; Secretary of State for India, Viscount Cross; First Lord of the Admiralty, Lord George Hamilton; Lord Chancellor of Ireland, Lord Ashbourne, formerly Edward Gibson; Chief Secretary of the Lord Lieutenant of Ireland, Arthur J. Balfour; Chancellor of the Duchy of Lancaster, the Duke of Rutland, formerly Lord John Manners; President of the Board of Trade, Sir Michael Hicks-Beach; Lord Privy Seal, Earl Cadogan; President of the Local Government Board, Charles Thomas Ritchie; President of the Board of Agriculture, Henry Chaplin.

Area and Population.—The area of the United Kingdom is 121,481 square miles. The population of England increased from 15,002,443 in 1841 to 24,613,926 in 1881; that of Wales, from 911,705 to 1,300,513; and that of Scotland from 2,620,184 to 3,735,573; while that of Ireland decreased from 8,196,597 to 5,174,836. The population of the whole United Kingdom on April 4, 1881, was 35,241,482. The number speaking the Celtic languages was 2,067,359. About 70 per cent. of the people of Wales and Monmouthshire could speak Welsh; 6·20 per cent. of the population of Scotland could speak Gaelic; and 18·2 per cent. of the people of Ireland could speak the Irish language. From the tables of births and deaths the population of England and Wales on June 30, 1889, was computed to be 29,015,613; of Scotland, 4,077,070; of Ireland, 4,716,209; the total for the United Kingdom, 37,808,892, exclusive of soldiers, seamen of the navy, and merchant seamen abroad. The population of the inner ring of the metropolis or London proper in 1888 was estimated in 1888 at 4,282,921. The part included in the registration district contained 4,351,738 inhabitants in 1889. The other towns in England having more than 100,000 inhabitants in that year were Liverpool, 604,562; Birmingham, 454,835; Manchester, 378,800; Hull, 234,283; Leeds, 357,449; Sheffield, 327,227; Bristol, 229,361; Bradford, 235,056; Nottingham, 237,812; Salford, 208,017; Newcastle, 160,983; Portsmouth, 141,253; Leicester, 150,520; Sunderland, 134,193; Oldham, 142,405; Brighton, 121,807; Blackburn, 121,275; Bolton, 114,670; Preston, 104,194; Cardiff, 112,712; Birkenhead, 102,541. In Scotland, at the last census, Glasgow had 674,095; Edinburgh, 236,002; Dundee, 140,239; Aberdeen, 105,189. In Ireland the only cities with more than 100,000 population were Dublin, with 349,648 within the metropolitan limits, and Belfast, with 208,122.

The number of marriages in England and Wales in 1888 was 203,456; of births, 879,263; of deaths, 510,690; the number of marriages in Scotland, 25,281; of births, 123,233; of deaths,

71,162; the number of marriages in Ireland, 20,018; of births, 109,557; of deaths, 85,962.

The number of emigrants from the United Kingdom, including foreigners, in 1889, was 343,551, against 398,491 in 1888, and 396,494 in 1887. The emigration to the United States was 241,029, against 293,087 in 1888, and 296,901 in 1887; to British North America, 38,132, against 49,107 in 1888 and 44,406 in 1887; to Australia, 29,040, against 31,725 in 1888 and 35,198 in 1887; to other countries, 35,350. The number of British-born emigrants in 1889 was 254,568, against 279,928 in 1888; and of these 64,972 were Irish, against 73,233 in 1888, 25,371 were Scotch, against 35,873, and 164,225 were English, against 170,822. The immigrants in 1888 numbered 128,879, of whom 94,133 were of British origin. Since 1876, while 3,050,000 people of British and Irish origin have left the United Kingdom, 995,000, or nearly one third as many, have immigrated. In the five years 1876-'80 the net emigration was 434,000, an average of 87,000 per annum; in 1881-'85 it was 334,000, an average of 187,000 per annum; and in the four years 1886-'89 it was 685,000, or about 171,000 per annum. The movement, though not so great as in several other countries of western Europe, has in the four years been equal to 5 per 1,000 of the population annually, or five twelfths of the average yearly excess of births over deaths. Two thirds of the emigration has been to the United States.

Education.—Compulsory education was introduced in 1870, when board schools were established in the towns and country districts, under the control of school boards, in the election of which female rate payers participate, and for which women are eligible. The Government paid, under the code that has been in force till 1890, a fixed grant of 4s. 6d. per annum for every pupil taught reading, writing, and arithmetic, and for various degrees of excellence, as determined by the examinations of the school inspectors appointed by the Council of Education, 1s., 2s., or 3s. extra, also 1s. or 2s. for each pupil instructed in English, geography, history, drawing, or needlework, and 4s. for mathematics, physics, chemistry, botany, Latin, French, or, in the girls' schools, cookery. A large part of the cost of the schools is defrayed out of the school rates levied on householders, which average 3 or 4 per cent. of the rent. In addition to this and to the Government grants the school boards are empowered to exact a fee from each pupil, not to exceed 9d. a week. Rarely is the fee so high, and commonly it is only 1d., which is brought to the teacher every Monday morning. The Government hesitates to accede to the popular demand for gratuitous education, falling back on the old argument that the school fees make the advantages of education appear more valuable in the eyes of parents, although Lord Salisbury held out the prospect of the abolition of school fees not long before the new education code was promulgated. The real obstacle was the attitude of the supporters of the voluntary schools controlled by the Anglican and other religious bodies. These depend, to a great extent, on voluntary contributions and school fees. Many of them were in existence before the board schools were established, and they have been

continued and increased in number because in the latter no religious instruction is given and none of a sectarian character could be introduced. When the question arose of abolishing school fees in the state-supported schools and substituting an additional subvention from the Government a demand was made for like assistance for the voluntary schools. A large section of the Liberal party favors the assumption of the voluntary schools by the state and the institution of a general system of public elementary schools, such as exists in the United States and in most European countries, and few of the Tories would venture to propose the extension of state aid free from state control. Any sort of interference on the part of the state would discourage religious contributors and diminish the revenue of the voluntary schools from private benefactions. The introduction of gratuitous education in the board schools would entail an expense to the Government of not only the £2,000,000 represented by the school fees now collected; it would lead to the transfer of the education imparted in the voluntary schools to the Government, increasing the yearly expenditure by £30,000,000 or £40,000,000.

The new education code, embodying the recommendations of the Royal Education Commission, does away with the system of "payment by results," which leads to cramming, overstudy, and loading of the memory with uncongenial knowledge learned by rote and quickly forgotten. Leaving school at the age of eleven in the rural districts and at eleven and a half or twelve and a half in the towns, during the interval that elapses before the children are put to useful occupations the knowledge with which they have been hurriedly crammed in order to increase the teacher's allowance passes from their minds. In the future teaching is to be adapted to the physical and mental condition of the pupils, who will be made to comprehend and assimilate what they acquire. Physical and manual training will be made prominent, and kindergarten or similar methods will make learning attractive to little children, while later drawing and manual training of an advanced kind are to be compulsory for boys, and a larger share of the school time of girls will be claimed by cookery and laundry work. The inspector is no longer obliged to examine each individual pupil. All are required to be present at the examination and all are liable to be examined, but it is left to him to examine as many as he may see fit. Teachers will have more liberty in arranging the educational course. It is no longer necessary for a child to be in the same standard in all three elementary branches. For pupil teachers the new code requires severer tests before they receive certificates. Instead of being examined by the inspector at the end of their apprenticeship of four years, they must pass the examination for the Queen's scholarships, and two failures disqualify them. The system of merit grants and of percentages by results disappears, though the principle is retained to a limited extent in variable grants for higher degrees of efficiency. Every school that is found efficient by the inspector receives 12s. 6d. If his report is favorable this is increased to 14s. For discipline and organization there is a further grant of 1s. or 1s. 6d.;

for needlework, and an equivalent for boys, 1s.; and for class subjects, according to the efficiency shown, 1s. or 2s. The best schools can earn £1 6d. per pupil, to be increased by payments for specific subjects and by the grant for drawing, which is made compulsory for boys. For girls there are special allowances where cooking and laundry work are taught. A principal teacher is held competent to teach 60 children, and for every 70 children additional there must be a certificated teacher who has received a normal-college training, or, if untrained, he only counts for 60 children. Infant schools receive a fixed grant of 9s., which may be reduced to 7s. if the school does not satisfy the requirements of the code, and if it surpasses the minimum requirements there is a supplementary grant varying, according to the merits of the school, from 2s. to 9s., with 1s. for needlework instruction for girls and drawing for boys and 1s. more for music, subject to the condition that the older children can sing by note. The new code went into force on Sept. 1, 1890. Elementary education was made free in Scotland in 1889. The Government grants paid to English primary schools in 1889 was £3,245,827 and to Scotch schools £488,713, besides £433,708 for special branches in Great Britain, while the grants to Irish schools amounted to £902,577, making the sum given by the Government for elementary instruction £5,071,005. The income of the schools from endowments, local rates, voluntary subscriptions, and other sources was, in 1888, for England £3,839,408; for Scotland, £586,942; and for Ireland, £194,984. There were in England and Wales 19,221 schools, with accommodation for 5,356,554 children, and 3,614,967 in average attendance; in Scotland, 3,105 schools, with accommodation for 687,297, and 496,239 in attendance; in Ireland, 8,196 schools, with an average attendance of 493,883 pupils. The total number of children between the ages of five and fourteen in England and Wales was 5,962,488 and in Scotland 833,109. Of the schools in England and Wales 4,562 were directly under school boards, 11,838, were connected with the National Society or the Church of England, 554 were Wesleyan, 895 were Roman Catholic, and 1,375 were British, undenominational, and other schools. In Scotland 2,608 were public schools, 76 were connected with the Church of Scotland, 157 were Roman Catholic, and the rest were connected with other religious bodies or were undenominational. In England and Wales there were 44 training colleges in 1888, with 3,277 students, and in Scotland 7 colleges, with 857 students.

Commerce.—The imports in 1889 reached the total of £427,210,830, against £387,635,743 in 1888, and £362,227,564 in 1887. The exports of domestic products amounted to £248,091,959, against £233,842,607 in 1888, and £221,414,186 in 1887; the foreign exports to £64,939,715, against £64,042,629 in 1888, and £59,348,975 in 1887. The value of the total trade *per capita* was £19 11s. 7d., which was a greater average than in any year since 1883. The share of England and Wales in the total was 90 per cent., of Scotland 7½, and of Ireland 2½ per cent. The shares of the principal foreign countries and British possessions in the imports and in the ex-

ports of British produce in 1889 are shown in the following table:

COUNTRIES.	Imports.	Exports of British produce.
United States.....	£95,889,637	£30,299,325
France.....	45,723,369	14,584,962
India.....	36,026,402	30,967,400
Germany.....	27,044,612	15,382,263
Russia.....	27,160,360	8,887,328
Netherlands.....	26,658,088	9,704,544
Australasia.....	26,819,656	22,754,409
Belgium.....	17,661,959	7,147,983
British America.....	12,188,885	8,114,777
Sweden.....	9,213,353	2,772,541
Egypt.....	8,495,098	2,940,740
Denmark.....	7,849,916	2,356,131
China.....	6,177,985	5,087,285
South Africa.....	6,117,892	8,946,539
Straits settlements.....	5,440,442	2,894,994
Turkey.....	5,249,597	6,161,996
Brazil.....	5,052,767	6,288,923
Norway.....	3,495,984	1,715,436
Portugal.....	3,250,165	2,719,176
Roumania.....	3,216,877	1,358,966
Italy.....	3,202,744	7,116,140
Ceylon.....	2,869,125	778,084
Chili.....	2,441,811	3,012,295
Austria.....	2,283,923	1,020,604
Philippine Islands.....	2,230,714	1,544,808
Java.....	2,222,507	1,526,912
British West Indies.....	2,170,138	2,174,295
Peru.....	2,104,595	884,212
Argentine Republic.....	2,018,880	10,672,047
Greece.....	1,883,868	853,800
Central America.....	1,195,057	995,815
British Guiana.....	1,216,301	815,304
West Africa.....	1,026,661	1,450,001
Hong-Kong.....	1,184,499	2,172,325
Japan.....	989,127	8,887,870
Morocco.....	956,768	572,216
Channel Islands.....	947,651	594,301
British West Africa.....	915,300	794,022
Algeria.....	678,419	286,426
Mexico.....	465,591	1,513,920

The imports of live animals were valued at £10,300,087; of non-dutiable articles of food and drink, £134,860,525; of dutiable articles of food and drink, £26,210,774; of tobacco, £3,973,925; of metals, £22,084,845; of chemicals, dyes, and tanning materials, £8,635,378; of oils, £7,122,978; of textile materials, £91,307,086; of raw materials for other manufactures, £43,694,671; of manufactured articles, £64,263,411; of all other articles, £14,697,130; total, £427,210,830. The import of wheat was 11,720,454 quarters of 8 bushels, as compared with 11,452,272 quarters in the preceding year, and 14,192,000 in 1885. Of the total for 1889, 4,264,325 quarters came from Russia, 3,403,250 from the United States, 1,843,466 from India, 572,497 from Roumania, 507,725 from Germany, 281,212 from Australasia, and 23,366 from Canada. The quantity of flour was 2,939,840 quarters, of which 2,013,565 quarters were supplied by the United States. The quantities of the chief food imports were as follow: Cereals, including flour, 148,217,405 cwt.; rice, 6,582,749 cwt.; hams and bacon, 4,475,752 cwt.; refined sugar, 9,022,939 cwt.; raw sugar, 17,503,566 cwt.; tea, 221,602,060 lbs.; butter, 1,927,469 cwt.; margarine, 1,240,700 cwt.; cheese, 1,009,545 cwt.; beef, 1,644,033 cwt.; preserved meat, 642,857 cwt.; fresh mutton, 1,224,669 cwt.; spirits, 10,461,645 gallons; wine, 15,934,934 gallons. The number of live cattle imported was 555,221; of sheep, 678,058. The value of the grain and flour imported in 1889 was £50,808,127; of raw cotton, £45,260,385; of wool, £28,393,755; of

woolen manufactures, £12,125,004; of timber, £19,826,045; of sugar, raw and refined, £22,652,684; of meat, £18,601,300; of animals, £10,360,807; of butter and margarine, £13,896,450; of silk manufactures, £11,785,240; of tea, £10,022,771; of flax, hemp, and jute, £11,760,005; of seeds, £7,947,164; of fruits, £6,931,755; of wine, £5,908,823; of leather, £6,667,265; of cheese, £4,494,554; of tobacco, £3,973,925; of copper ore, £4,213,436.

The exports of British products in 1889 are summarized in the following groups: Live animals, £1,172,063; articles of food and drink, £10,718,662; raw materials, £17,357,920; textile fabrics and yarns, £110,210,484; metals and manufactures of metals other than machinery, £40,945,735; machinery, £15,254,658; clothing and articles of personal use, £11,425,731; chemicals and medical preparations, £7,933,519; all other manufactured or partly manufactured articles, £33,073,187; total, £248,091,959. The export of cotton goods was £58,825,843, and of cotton yarn, £11,711,190; of woolen and worsted manufactures, £21,340,107, and of yarn £4,341,597; of linen manufactures, £5,776,911, and of yarn £839,075; of jute manufactures, £2,770,188; of hardware and cutlery, £2,988,902; of copper, £3,301,254; of pig and puddled iron, £2,987,546; of bar, angle, bolt, and rod iron, £1,624,403; of railroad iron of all kinds, £5,339,304; of wire, £32,285; of tin plates, £6,430,496; of hoops and plates, £4,134,882; of cast and wrought iron of all sorts, £5,431,805; of old iron, £432,586; of steel and manufactures thereof, £2,340,094; of coal and coke, £14,793,655; of machinery, £15,254,658.

Agriculture.—The competition of new countries, which has brought down the price of wheat from 50s. 9d. a quarter in 1869 to 29s. 9d. in 1889, a fall of 64 cents a bushel, has affected the agriculture of the United Kingdom more seriously than that of other countries of Europe. The cultivated area has increased, but the production of food and other useful crops has diminished, and the result has been the same as if a large part of the land had reverted into a wild state. The social effects of this process have been most apparent in Ireland and the Highlands of Scotland, where the people have been deprived of their ancestral homesteads, many of them being evicted by force, and a large part of the population has been driven into exile. Mr. Gladstone and other statesmen and economists have suggested as a substitute for the cultures that are no longer profitable an intensive system of cultivation and the raising of fruit and small crops. Owing to the inexperience of the cultivators, the inclemency of the climate, and the conditions of land tenure there has been little or no progress in this direction. In 1869, of the total cultivated area of England 146 per cent. was devoted to wheat alone, and 33·3 per cent. to grain crops. In the entire United Kingdom wheat covered 8·7 per cent., all grain crops 28·3 per cent., green crops 11·0 per cent., meadow grasses and clover 11·2 per cent., permanent pasture 49·5 per cent., and other crops and fallow 2·0 per cent. of the cultivated area. In 1889 the wheat area in England had fallen to 9·4 per cent. of the total, and the proportion taken up by grain crops in general to 25·2 per cent. In

the whole of great Britain and Ireland the proportion of the wheat area was reduced to 5·3 per cent., of all grain crops to 20·1 per cent., of green crops to 9·4 per cent., and of other crops and bare fallow to 1·8 per cent., while meadow lands had increased to 12·9 per cent., and permanent pasture had grown to 55·8 per cent. The variations in Great Britain are shown in the following table, which gives the number of acres devoted to the various crops in the years designated, with the increase or decrease between 1869 and 1879, and between 1869 and 1889.

CROPS.	1869.	1879.	1889.	Two years.	Twenty years.
Total cultivated area.....	30,929,278	31,973,784	32,788,857	+757,573	+2,894,079
Wheat.....	8,688,857	8,718,992	8,921,504	+232,485	+1,366,548
Barley.....	2,251,430	2,667,176	2,121,583	-545,646	-129,950
Oats.....	2,712,723	2,656,628	2,885,704	+229,076	+165,981
All cereal crops.....	9,753,037	8,986,584	8,073,172	-910,062	-1,682,565
All green crops.....	8,575,037	8,564,818	8,299,647	-275,671	-275,420
Rotation grasses and covers.....	3,448,726	4,478,873	4,877,298	+408,915	+1,428,572
Permanent pasture.....	12,735,897	14,166,724	15,665,868	+1,699,189	+8,129,966
Bare fallow.....	783,836	721,409	513,529	-270,889	-225,516

In Ireland the wheat area in 1869 was only 1·8 per cent. of the cultivated area, and now it is one third as much, while the whole grain area has declined from 14·1 to 10·1 per cent., and that of green crops from 9·4 to 8·0 per cent. Out of every 100 acres 72·4 are now in permanent pasture, an increase of 8·2 acres in twenty years.

The increase in the grass area has not been accompanied with an increase in live stock. On the contrary there has been a serious decline in the number of farm animals in twenty years. Cattle have increased and hogs in a larger proportion, while horses have decreased, and in the number of sheep there has been a large diminution. The actual figures for the United Kingdom for the years under comparison, with the increase or decrease at the end of ten and at the end of twenty years, are given in the following table:

ANIMALS.	1869.	1879.	1889.	Ten years.	Twenty years.
Horses.....	1,461,661	1,432,845	1,421,389	-20,456	-89,672
Cattle.....	5,813,473	5,856,356	6,189,555	+238,199	+426,082
Sheep and lambs.....	29,538,111	28,157,080	25,632,020	-2,525,060	-8,906,121
Pigs.....	1,980,452	2,091,559	2,610,808	+419,244	+680,361

In England the number of horses per 100 cultivated acres declined from 4·9 to 4·3; cattle increased from 15·9 to 17·4; sheep declined from 84·8 to 63·2, and pigs increased from 7·0 to 8·4 between 1869 and 1889; in the whole of Great Britain horses declined from 4·8 to 4·3; cattle increased from 14·0 to 18·6; sheep declined from 95·8 to 78·3, and pigs increased from 6·3 to 7·6; in Ireland horses remained at 3·4; cattle increased from 23·8 to 27·4; sheep declined from 29·7 to 25·2, and pigs increased from 7·0 to 9·1.

The product of wheat in Great Britain in 1889 was 73,267,007 bushels, or 29·91 bushels to the acre; of barley, 67,478,799 bushels, or 31·81 bushels to the acre; of oats, 113,548,967 bushels, or 39·31 bushels to the acre.

Navigation.—The number of sailing vessels engaged in the home trade, that is, in navigating between the ports of the United Kingdom and the neighboring coasts from the Elbe to Brest, was 9,199 in 1888, of the aggregate burden of 597,145 tons, employing 39,505 sailors; the

number of steamers was 1,760, of 289,852 tons, giving employment to 20,540 men. There were 428 sailing vessels, of 55,495 tons, employing 2,420 men, and 248 steam vessels, of 105,712 tons, employing 3,839 men, engaged partly in the home and partly in the foreign trade. The number of sailing vessels engaged exclusively in foreign trade was 2,665, of 2,401,419 tons, employing 48,669 men; the number of steamers was 3,284, of 3,902,265 tons, employing 108,700 men. The total number of vessels in 1888 belonging to the United Kingdom and the Chan-

nel Islands was 21,896, of 7,464,167 tons, of which 15,025, of 3,114,509 tons, were sailing vessels, and 6,871, of 4,349,658 tons, were steamers. The total number of men employed was 223,673, of whom 25,277 were foreigners. There were 269 sailing vessels, of 75,696 tons, and 465 steamers, of 407,445 tons, built and registered in 1888.

The number of vessels entered at British ports in 1888 was 59,573, of 33,952,000 tons, of which 22,109, of 9,003,000 tons, were foreign. The number cleared was 60,159, of 34,566,000 tons, of which 22,340, of 9,120,000 tons, were foreign. The total British tonnage was 68,519,000 and the foreign tonnage 18,124,000 tons, and of the latter 4,096,443 tons were Norwegian, 3,607,150 German, 2,087,200 Dutch, 1,977,140 French, 1,573,860 Danish, 1,432,600 Swedish, 1,007,200 Spanish, 662,600 Belgian, 575,900 Italian, 435,400 Russian, 264,100 American, 147,300 Austrian,

and 145,408 Greek. The tonnage entered and cleared at the port of London, exclusive of coasting vessels, was 12,941,861; at Liverpool, 10,209,752; at Cardiff, 8,076,333; at Newcastle, 4,130,892; at Hull, 3,401,692; at Glasgow, 2,448,882; at Newport, 2,431,732. The number of vessels entered coastwise in 1888 was 317,886, of 47,572,985 tons; number cleared, 281,820, of 41,944,389 tons.

Railroads.—The railroads in operation on Jan. 1, 1889, had a total length of 19,812 miles, of which 13,982 miles were in England and Wales, 3,079 miles in Scotland, and 2,723 miles in Ireland. The total capital was £864,695,963. There were 742,499,164 passengers carried in 1888, exclusive of holders of season tickets. The receipts from passengers were £30,984,090; from freight, £38,755,780; the total receipts, including miscellaneous, £72,894,665.

Posts and Telegraphs.—On March 31, 1889, there were 17,829 post-offices in the United Kingdom. The permanent staff of officials,

which included 4,054 females, was 58,396, besides whom about 50,000 persons are employed, 16,000 being women. The number of letters delivered in 1888-'89 was 1,558,500,000, the share of England and Wales being 1,327,000,000; of Scotland, 136,000,000; and of Ireland, 95,500,000. The number of letters per head of the population has increased from 32 in 1879 to 42 in 1889. The number of postal cards carried in the United Kingdom in 1888-'89 was 201,000,000; of book packages, 412,000,000; of newspapers, 151,900,000; of parcels, 39,500,000; showing an increase of 6,700,000 in the postal cards, 5,800,000 in the book packets, and 7,800,000 in the parcels, and a decrease of 300,000 in the newspapers as compared with the previous year. The number of money orders in 1888-'89 was 10,507,717, and the amount was £26,618,052, 9-228,183 of them, amounting to £22,957,649, being internal orders, of which 7,560,195, of the amount of £19,267,308, was sent in England and Wales, 1,079,719, of the amount of £2,422,793, in Scotland, and 588,249, of the amount of £1,267,548, in Ireland. The number of postal orders was 40,282,321, amounting to £16,112,079. The revenue from the post-office was £9,102,776 and the expenditure was £6,062,902, leaving a net revenue of £3,039,874.

The telegraph lines on April 1, 1889, had a total length of 30,726 miles, having 183,502 miles of wire, nearly all of which belonged to the Government, the telegraph system of the country having been acquired by the state in 1870. The number of messages dispatched in England and Wales during the year ending March 31, 1889, was 48,532,669; in Scotland, 5,991,223; in Ireland, 3,241,455; total, 57,765,347. The receipts of the telegraph department in 1888-'89 were £2,094,048 and the expenses £1,949,096, giving a net revenue of £124,952, as compared with one of £31,247 in 1888, when 53,403,425 messages were transmitted; a deficit of £84,082 in 1887, the first year of the reduced tariff, when 50,243,639 messages were sent; and a revenue of £245,138 in 1886, when the number of messages was 39,146,283.

The Army.—The regular army, exclusive of the forces of India, according to the army estimates for 1890, consists of 7,421 commissioned officers, 1,161 warrant officers, 15,706 sergeants, 3,657 musicians, and 124,337 rank and file, making a total of 152,282 men, an increase of 2,615 over the preceding year. The number of horses on Jan. 1, 1889, was 13,238, and the number of field guns was 282. Of the force maintained in the United Kingdom at that date, numbering 105,456 officers and men, 73,972 were in England and Wales, 3,913 in Scotland, and 27,571 in Ireland. There were 3,380 men of all ranks in Egypt, 27,568 in the colonies, and 2,501 on the passage. The Indian forces numbered 72,895 officers and men, with 11,092 horses and 318 guns. The regimental establishments of the regular forces at home and in the colonies numbered 142,498 men of all ranks in 1890; the army reserve of the first class, 58,300; the army reserve of the second class, 2,300; the militia, 141,444; the yeomanry, 14,139; the volunteers, 259,524; total, 618,205 men. Including the British army in India the total force is 690,629 officers and men, of whom 617,795 were present with

the colors in March, 1890. The number enrolled in the volunteer corps of Great Britain increased from 119,146 in 1860 to 226,469 in 1888. Of the total number of non-commissioned officers and privates in the British army on Jan. 1, 1889, 150,048 were of English, 16,838 of Scotch, and 30,302 of Irish birth.

The magazine rifle that has received the approval of the War Office is one with a bolt-head screw, a contrivance that some military authorities condemn as false in principle, as it is unable to resist the concussion of firing or the strain of extraction.

Lord Hartington's commission to consider the reform of the military and naval administrations made a very guarded report suggesting, however, far-reaching changes, the chief of which are the abolition of the office of commander-in-chief and the appointment of a chief-of-staff. It was found that no definite plans had been worked out and agreed on for the defense by the army of the dock yards, arsenals, and coaling stations, at home or abroad, or for the conveyance of troops by the navy to the stations to be garrisoned after the commencement of hostilities. Naval experts gave it as their opinion that the garrisons ought to be on the spot before the emergency arises, and that the navy should be bound by no promises of assistance to the forces operating on land. The fact that no combined plan of operations existed for the defense of the empire in any given contingency was in the view of the commission a dangerous and unsatisfactory condition of affairs. The report recommends making the First Naval Lord more definitely responsible to the First Lord of the Admiralty and the other lords subordinate to the First Naval Lord, who should maintain constant confidential communications with the chief-of-staff at the War Office in regard to the problems involving the co-operation and independence of the sea and land forces in all emergencies likely to arise. The suppression of the commander-in-chief as the only military authority who has the right to advise the Secretary of State on anything connected with the army, from the plan of a campaign to the defective design of a heavy gun, in addition to all his duties of command and inspection, would have occurred long before if it had not been for the age and royal connections of the present commander-in-chief, the Duke of Cambridge, under whom the army has been without a central control. In practice the Secretary of State goes behind the commander-in-chief and takes his advice from the heads of departments or resorts to the creation of technical committees. Out of regard for his susceptibilities the commissioners recommend that the post of commander-in-chief in Great Britain be created, analogous to that of commander-in-chief in Ireland. It is proposed that each of the great departments of the service shall have a head directly responsible to the Secretary of State, each independent of the chief-of-staff, whose duties would be to advise the Secretary of State on all matters of general military policy and all questions as to the strength, distribution, and mobilization of the forces, and the relative importance of the various services; to collect military information, to prepare a general scheme of defensive operations and plans

in certain contingencies, to consult with the First Naval Lord regarding combined action, and to report on military needs annually.

The Navy.—At the close of 1888 the British navy numbered 204 steamers, 28 sailing vessels, and 35 store, training, and other stationary ships. There were 62 effective armor-clads and 29 protected vessels afloat on Jan. 1, 1889. Of the armored vessels 17 were battle ships of the first, 15 of the second, and 6 of the third class, 12 were coast-defense vessels, and 12 were cruisers of the first class. Of the protected vessels 10 were cruisers of the second, and 18 of the third class, and 1 was a torpedo ram. When the present programme of construction is completed in 1894 there will be 13 first-class and 2 second-class armored battle ships, 11 first-class, 41 second-class and 6 third-class protected cruisers, and 1 torpedo depot ship additional. Among the unprotected vessels are 10 second-class cruisers, 1 corvette, 8 gun vessels, 17 sloops, 10 torpedo cruisers, 4 torpedo gunboats (of which 27 more are to be built), 62 gunboats (which will be increased to 71), 80 first-class torpedo boats (with 6 more in prospect), 51 second-class torpedo boats (to be increased by 10), 2 dispatch vessels, and 1 torpedo depot ship. The total cost of the armored vessels was £22,829,256; of the protected vessels, £4,106,551; of the unprotected vessels, £8,699,912. The contemplated additional construction will cost £22,669,000, besides £1,546,000 to complete vessels that are building. This does not include 7 vessels that are under construction for the Australian squadron. The Government has contracted for 23 fast steamships (vessels of the Cunard, White Star, and Peninsula and Oriental lines), which will be fitted out as cruisers and commerce destroyers in case of war. The above enumeration does not include 29 vessels now in commission which will be removed from the effective list before April 1, 1894. On Jan. 1, 1890, there were 5 first-class battle ships, 2 first-class, 3 second-class, and 6 third-class protected cruisers, 1 torpedo depot ship, 7 torpedo gunboats, 2 sloops, 9 first-class gunboats, and 1 sailing brig cruiser in process of construction. The armament of the effective navy in 1888, besides 1,281 breech-loading cannon, ranging up to 111 tons, on the "Sans Pareil" and "Victoria" and on the 6 barbette ships of the "Collingwood" type, included 790 quick-firing guns and 1,818 torpedoes. The most powerful vessel in the navy is the "Inflexible," having a displacement of 11,880 tons, 8,010 indicated horse-power, and 3,275 tons of armor, 16 to 24 inches thick over the vital parts, with a strong backing of teak. Each of the 2 turrets contains two 80-ton Armstrong guns, firing 1,700-pound shot with a charge of 450 pounds of powder. The "Ajax" and the "Agamemnon" are built on the same plan, but on a smaller scale. The "Dreadnought," "Devastation," and "Thunderer," with 10 to 14 inches of side armor and 35- and 38-ton guns, have a coal capacity for voyages of from 3,500 to 6,000 miles, making 10 knots an hour. The steel sister ships, the "Colossus" and the "Edinburgh," having 14 to 18 inches of steel-faced armor and carrying four 44-ton guns each, are likewise built for steaming long distances. The 6 barbette ships, having 18 inches of compound armor at the water line, are capable of

making from 16·4 to 17·1 knots. The "Conqueror," "Hero," "Rupert," and "Hotspur" depend for their offensive power chiefly on their sharp rams, 8 feet below the water line, and projecting 12 feet. Of peculiar construction is the "Polyphemus," a steel tube, entirely submerged except a part of the convex deck rising 4½ feet above water, carrying only quick-firing and machine guns, but having a powerful ram 8 feet long, with a tube for firing Whitehead torpedoes directly ahead.

Of £21,500,000 that were voted by Parliament in 1889 for the increase of the navy, £10,000,000 are charged on the consolidated fund, constituting a source of revenue for the navy independent of the annual votes. The remaining £11,500,000, distributed over the five years, form a part of the annual naval estimates. With this money 38 vessels are to be built, and of these 21 were already begun before April 1, 1890, and 7 were to begin during the ensuing financial year, while 10 of the lighter type were left till after March, 1891. With the sum charged upon the consolidated fund 32 vessels were to be built by contract, and of these 26 were ordered during 1889-'90. The remaining 6, being torpedo gunboats that can be quickly constructed, were left till later in order to have the benefit of the newest improvements. Of the uncompleted ships of the old programme 23 were made ready for service in 1889-'90 and 10 others that were begun before 1889 were expected to be completed in the course of 1890-'91. In the new cruisers special attention has been given to the development of high speed under ordinary conditions, and not as an exceptional performance. The great 111-ton guns have proved quite unmanageable, and the Admiralty Board has decided to have no more made besides those already ordered, 6 in number. The 67-ton or 13-inch guns are in favor, 11 having been furnished in 1889 and 48 more ordered. The vessels for the Australian service were ready before the end of 1890. The cost of this squadron is to be divided between the home and the colonial governments, the former providing funds for construction and armament and officers and seamen, and the latter paying an annual subsidy for twelve years in return for the protection afforded. Five of these are of the same design as the "Pallas," a second-class protected cruiser launched at Portsmouth, in June, 1890, the first of a series of four built under the Naval Defense act. She measures 260 feet, with a breadth of 41 feet, a draught of 15½ feet, and a displacement of 2,573 tons. A steel deck protects engines and magazines, and the hull is subdivided into water-tight compartments. With an indicated horse-power of 4,500 with natural draught, she is designed to steam 16½ knots, or with forced draught 19 knots, and has coal capacity for 4,800 knots, running 10 knots an hour. The armament consists of eight 4·7-inch, eight 3-pounders, and several machine guns, with a torpedo equipment. The total cost of this vessel is £150,186.

In the naval manœuvres of 1890 one fleet was given twenty-four hours' start, and the other, of slightly superior speed, had the task of finding and engaging the former, the problem being to ascertain how long a fleet can maintain itself on one of the principal trade routes and intercept traffic without being brought into a general engagement,

and how a British fleet should manœuvre to force a hostile fleet of such a kind into action or back to port. The result of the experiment was that Sir George Tryon, who commanded the pursuing squadron, was unable in a ten days' cruise to come within sight of the ships of Sir Michael Culme-Seymour. The estimated expenditure on the navy for the year ending March 31, 1891, is £13,786,600, an increase of £101,000 over the vote for 1889-90. The naval authorities have adopted a new torpedo, much more powerful than the Whitehead. The Brennan is a fish torpedo, like the Whitehead, but is altogether different in its motive power. It belongs to the controllable class, being propelled and steered by a stationary engine unwinding two reels of fine steel wire in the body of the fish, which communicate their motion to the screws. The speed of either of the drums reeling in the wire on shore can be varied at pleasure, and the movements of a sensitive rudder are determined by the variations of their velocity, enabling the operator to steer the torpedo in any direction. This torpedo has been adopted for coast and harbor defense, but it can not be used with advantage on board a ship. The first-class protected cruiser "Blenheim," launched on July 5, 1890, is 375 feet long and 35 feet broad, with a displacement of 9,000 tons, engines of 20,000 indicated horse-power, and an average speed of 18½ knots. With a cellular steel hull, she is protected by 1,190 tons of deck armor, and is armed with two 22-ton and ten 6-inch breech-loading guns, besides machine guns and torpedo-firing apparatus. The torpedo cruiser "Serpent," of 1,170 tons displacement, launched in 1887, carrying six 6-inch breech-loading guns, with rapid firing and machine guns and Whitehead torpedoes, was foundered off the coast of Spain on Nov. 10, 1890, not six months after being put in commission, carrying down 273 persons. She was one of a class of eight third-class unprotected cruisers, ordered when Lord Northbrook was First Lord of the Admiralty, on the recommendation of Admiral Sir Astley Cooper Key, and designed to combine lightness with speed and endurance. These vessels have been condemned by experts as too heavily armed and engined for their frail hulls and liable to excessive strains in a heavy sea with head winds.

Finance.—For the year ending March 31, 1889, the revenue of the Government was £88,472,812, exceeding the budget estimates by £1,645,812. The expenditure amounted to £87,683,830, which was £69,769 more than the estimates. There was a deficit in 1885 of £1,049,773 and one of £2,642,543 in 1886; in 1887 the accounts showed a surplus of £776,006, those of 1888 one of £2,378,600, and for 1889 the surplus was £788,982. The total receipts paid into the Exchequer in 1889-90 were £89,304,316. The amount collected was really greater by about £4,600,000 than in the previous year, but the imperial revenue was reduced to a greater extent than in 1889 by the transfer of a part of the produce of the stamps and excise to the county councils, nearly £5,200,000 having been so transferred, against £1,400,000 in the previous year. The revenue from stamps show an improvement of £480,000, notwithstanding the transfer of £800,000 to the local-taxation account, which was precisely the sum expected for the first year

from the new estate duty of 1 per cent. on estates of over £10,000. There was an increase of £374,000 in the customs revenue, and the excise receipts exceeded the estimates by £1,290,000, one fourth of which was due to the additional tax on beer. The land tax, the house duty, the property and income tax, the post-office, and the telegraphs all yielded more than the estimates. Although expenditure exceeded the estimates by £116,000, there was a surplus of £3,221,000. Through the conversion of 3-per-cent. consols and the expiration of annuities the national debt was reduced during the year by £8,295,000. In three years £23,323,000 of the debt have been wiped out. On the basis of existing taxation and expenditure Mr. Goschen calculated on a revenue of £90,406,000 for 1890-91, and a total expenditure of £86,857,000, giving an excess of revenue of £3,549,000. Of this he applied £900,000 to building barracks, £100,000 to the equipment of volunteers, £80,000 to the reduction of postage to India and the colonies to 2½d., and smaller sums to lowering the stamp duties and abolishing the duties on gold and silver plate, opening the English market to Indian silver workers, who have already a considerable trade in Paris. In order to partly satisfy the democratic agitators for a "free breakfast table" he sacrificed £1,500,000 of revenue by lowering the duty on tea from 6d. to 4d. a pound. In return for a remission of the Greek duties on British products the duty on dried currants is reduced from 7s. to 2s. a hundred. The house tax on houses between £20 and £60 in annual value is placed at lower rates. Brewers and licensed venders were not treated with indulgence, the beer tax of 3d. a barrel imposed in the preceding year being retained and the proceeds handed over to the local authorities, while an additional duty of 6d. a gallon is levied on domestic and imported spirits. No new licenses will be permitted, and £350,000 of this new grant to the local authorities is to be used in purchasing the licenses of existing public houses. The remissions of taxation and new charges on the revenue reduce the estimated surplus to £233,000. The addition increases the total grant in aid of local taxation to £3,640,000.

The Parliamentary Session.—The fifth session of the Twelfth Parliament of Queen Victoria was opened by royal commission on Feb. 11, 1890. The Queen's speech began with a reference to Major Serpa Pinto's operations on the Shire, stating that an armed force under a Portuguese officer had been dispatched into territory where there were British settlements and native tribes under British protection, and that a collision attended with bloodshed had taken place and acts committed that were inconsistent with due respect to the British flag, but that the Portuguese Government had promised to withdraw the forces. The approaching slave-trade conference at Brussels was spoken of with approval and with the hope that the great cause for which it was convened would be advanced by the results of the deliberations. Mention was made of the commercial convention with Egypt, the provisional fiscal arrangement with Bulgaria, the convention with Germany and the United States with respect to the government of Samoa, and the treaty for amending the law of extradition between Great Britain and the United States,

which awaited the ratification of the Senate. The dispatch of a commissioner into disordered Swaziland to learn the views of the white settlers on the better government of the territory was announced, and favorable consideration was promised for any well-considered scheme for the federation of the Australian colonies that, by bringing them into closer union, would increase their welfare and strength. The legislative intentions of the Government were known before the meeting of Parliament. Two important Irish measures were proposed, with small chance of both being carried in one session. Mr. Balfour's plan for extending and placing on a permanent footing the system of land purchase by state aid was defined as a proposal for increasing, under due precaution, the number of occupying owners. The other bill promised was to extend to Ireland the principles of local self-government which have been adopted in England and Scotland, so far as they are applicable to that country. Legislative proposals were to be submitted also for improving the material well-being of the population in the poorer districts. Credit was taken for the continued improvement in the state of Ireland and the further diminution in the amount of agrarian crime, which had made it possible to restrict very largely the area wherein it is necessary to deal with certain offenses by summary process. A bill for improving the procedure by which tithe is levied and for facilitating its redemption was expected to deal with the tithe question on the basis of the amended proposals of the ministry, to which Sir William Harcourt had given his approval in the preceding year. Besides the tithe bill, a bill for facilitating and cheapening the transfer of land in England, one for diminishing the difficulty and cost of passing private bills for Scotland, the bill for ascertaining the liability of employers in case of accidents, and a measure for improving the procedure in winding up insolvent companies under the limited liability act, were to be resuscitated from among the slaughtered bills of the previous session. In regard to the best means for improving the economic conditions of inhabitants of the western Highlands and islands of Scotland, the report of the royal commission was awaited. The rest of the ministerial programme was summed up in bills for the consolidation and amendment of the laws relating to the public health of the metropolis and to the dwellings of the working classes, a bill for the better regulation of savings banks and friendly societies, and better provisions for the distribution and the health and comfort of the troops by improving the accommodations in camps and barracks.

Irish obstruction, to which the failure of past sessions has been attributed, played only a smaller part in the delays and disappointments of the session of 1890, and yet it was the most futile and barren of results of any in recent times. The collapse was so complete that the question of a radical change in legislative arrangements has become a prominent subject of public discussion. In March, Sir George Trevelyan proposed that Parliament should rise in July to meet again shortly before or after Christmas, and so impatient have members become at the protraction of the sessions till late in the autumn,

that the vote on the motion, although it was opposed by the Government, was very close. The ministers became converts to the idea when business had made little progress in July and the restiveness of members on both sides was apparent. One of the excuses given for dropping all the important legislative measures of the year after they had reached the committee stage was that Parliament would assemble again in November. A few not unimportant minor measures were got through; but all those that were made prominent in the Queen's speech and those that formed the chief subjects of political discussion during the session came to nothing. The time of Parliament was spent largely on bills that had no place in the address, most of all on the abortive local taxation bill. Other legislative projects that were introduced and discussed with varying success were the allotments and police bills, the Western Australia Constitution that had failed to pass in the previous session, the Indian Councils bill, the Scotch corrupt practices bill, the electoral disabilities bill, and the public trustee bill.

Before the debate on the address, Sir William Harcourt brought up the forged Parnell letter published in the "Times" and proved before the Commission on Parnellism and Crime to be a forgery as a question of privilege, and asked for its condemnation as a false and scandalous libel, and after a lively discussion the House divided on party lines, and by a majority of 200 against 212 declined to treat the matter as a breach of privilege since the parties aggrieved had so long neglected to claim redress. In the debate on the address and throughout the session the Liberals and the Irish members who followed Mr. Gladstone's guidance abstained from raising embarrassing questions on foreign and colonial policy, although the more independent adherents of both sections found much to criticise. Mr. Parnell's amendment denouncing the Irish administration as unjust, exasperating, and futile, was rejected by 307 against 240 votes. Dr. Clark, the champion of the Highland crofters, offered an amendment demanding home rule for Scotland, which failed to receive Mr. Gladstone's support, was tempered by the amendments of other members, and was then rejected by a vote of 181 to 141. Mr. Thomas, who represents the Welsh movement against tithes, demanded the creation of a special department for the affairs of Wales, but after some discussion his amendment was withdrawn. An amendment in favor of developing further the system of local government was defeated by a large majority, as was also M. A. Acland's amendment calling for free education, which brought out the views of politicians of various schools on the coming issues. Mr. Chamberlain advocating a grant equivalent to the fees to voluntary as well as to board schools, while Mr. Sexton, as representing the Irish Catholics, joined the Secularists under Mr. Morley in condemning the Church schools. Mr. Cunningham-Graham, of the Socialistic wing of the Radicals, moved an amendment calling on the Government to consider the question of restricting the hours of labor, which Mr. Bradlaugh, the democratic advocate of individual liberty, disapproved, whereas the leader of the Tory

democracy, Lord Randolph Churchill, upheld the principle.

On the vote on supply Mr. Labouchere accused the Prime Minister of defeating the ends of justice by conniving in the flight of criminals and witnesses in order to hush up a scandal affecting members of the aristocracy, and refused to accept the categorical denial that Lord Salisbury had made in the House of Lords, saying that he had his information from a source that gave it indisputable authority which he would disclose in confidence to the leader of the House. He was named and suspended by a vote of the House, a ruling that Mr. Gladstone contested. Mr. W. H. Smith's resolution to adopt the report of the Parnell commission and thank the judges for their "just and impartial conduct" was fiercely discussed for six days. Mr. Gladstone called for the reprobation of false charges "of the gravest and most odious description, based on calumny and on forgery," and an expression of regret for the wrong inflicted by such "acts of flagrant iniquity," and Mr. Balfour roused the anger of the Opposition by insisting that important charges had been proved against the Parnellites. Mr. Gladstone's amendment was lost by a vote of 339 against 268. Mr. Jennings, one of Lord Randolph Churchill's followers, offered an amendment condemning the course of the "Times" newspaper, but withdrew it, saying that he would have no hand in stabbing ministers in the back, when Lord Randolph Churchill expressed his indignation at the whole action of the Government. Mr. Cairne, who had been elected as a Liberal Unionist, but disagreed with the Government with respect to the later Irish policy, and also on the licensing question, afterward moved the same amendment, which was debated a single night, and on application of the closure was defeated by 321 votes against 530.

Mr. Balfour's land purchase bill, which was to take the place of the Ashbourne acts, was much more complicated in its provisions. The terms of purchase were to be settled by voluntary agreement between the owner and the purchasing tenant. If they were approved by the Land Department, the entire sum, provided it did not exceed twenty years' purchase, or twenty times the net rent, was to be advanced by the state, the landlord being paid in a special Government stock bearing 2½ per cent. interest. The purchaser was to repay the loan in 49 annual payments of 4 per cent. of the purchase money, covering both principal and interest. The Government would be secured, not by the land alone, but by a guarantee fund equal to the whole amount of its advances at any one time, consisting of the contribution of the Exchequer of £40,000 a year in lieu of the English and Scotch grants under the local government acts, the Irish proportion of the probate duty, estimated at £200,000 a year, and one fourth of 1 per cent. of the purchase money included in the 4-per-cent. annuity paid by the occupiers. In case this should prove insufficient the Government could impose one fifth of the landlord's purchase money to furnish a tenants' insurance fund and could divert the local rates on Government property, the grants for pauper lunatics and for salaries in the medical and educational

departments of the workhouses, and even the Government grants for the national education system in order to make good the deficiency. The capitalized value of the guarantee fund was estimated at £33,000,000, and to that amount the total state advances were limited. When the whole sum had been loaned out, further advances could only be made as fast as the money was repaid by the purchasing occupiers. For the congested districts special arrangements were made, the guarantee being supplemented by £1,500,000 of the estimated church surplus not yet expended and a special board being created to aid in developing local industries, in amalgamating small holdings, and in assisting emigration. On the introduction of the bill, Mr. Gladstone called in question the practicability and legality of the provisions for contingent guarantees. On the second reading Mr. Gladstone, Sir William Harcourt, and Sir George Trevelyan condemned state landlordism as a ruinous expedient, and Mr. Parnell called in question the policy of land purchase, although it had been originally proclaimed by the Land League and had been adopted by the whole body of his supporters, both English and Irish. He suggested that the relief should be given in the form of lower rents, the entire risk of the financial operation being borne by the Government. His amendment, supported by the entire Opposition, was rejected by a majority of 80.

The tithe bill, in accordance with the pledge given by the Government at the close of the previous session, transferred the tithe rent-charge from the occupier, on whom it was placed by the former Government bill, to the owner of the property that is liable, giving power to the county court to order payment, in case of default, out of the rent of the land and to appoint a receiver. When the amount of the tithe exceeds the rent of the land provision was made for reducing it, and, with the consent of the parties, for its redemption. Altered to meet Sir William Harcourt's objections, the bill was still very different from one that he could approve, or the Radicals following the lead of Mr. Labouchere, or Mr. Parnell's following, who mustered 164 votes in favor of Mr. Picton's amendment, which was rejected by a majority of 125.

Mr. Goschen's very satisfactory surplus was mainly due, as he explained, to the "rush for alcohol," and therefore in framing his next year's budget he made the temporary duty on beer permanent, placed an additional tax on spirits, and turned over the proceeds of both to the local taxation account in order to make good the promises that the failure to carry the wheel and van tax had left unfulfilled. Teadrinkers could not be refused a reduction at least of the duty on the temperance beverage. Relief was also given to the lower middle classes, "the people who begin to wear a black coat," by a reduction of the house tax on houses assessed below £60 a year. The land purchase bill and the tithe bill were both cast into the shade by the controversy that arose over Mr. Goschen's plan for buying up public-house licenses, which was discussed at great length on the budget bill and afterward on the local taxation bill dealing with the application of specially assigned revenues. The Tories, who have received political

support from the liquor dealers and brewers, were inclined to take the view that licenses, many of which had been in operation for long periods and were transferred with the good-will of the business as a valuable property, were of the nature of vested rights, and could not justly be extinguished with compensation. The Liberals contended that the law under which licenses were granted and renewed from year to year conferred no perpetual privilege, and the temperance advocates raised an outcry against indemnifying publicans whose licenses it was found desirable to discontinue in the interest of public morals. A considerable part of the Liberal Unionists rejected the views of the ministers, and some of the Conservatives were inclined to rebel. Mr. Ritchie's local taxation bill empowered the county council, after a license has been renewed by the licensing body, to negotiate with the holder for its relinquishment. To mitigate the hostility of the temperance party he offered concessions in regard to the creation of new licenses, depriving licensees of the privilege of removal, taking from grocers the right of selling liquor by the glass, and giving the licensing body the absolute power to refuse to renew all licenses granted in the future without prejudice to the contention that it possesses this power in respect to all licenses. It has been the invariable custom in England to renew a license unless some fault of conduct is alleged against the licensee, though the courts have not affirmed, as they have in Ireland, the absolute right of renewal, provided the house has been conducted according to law. Lord Randolph Churchill, who has taken up a position of independence and criticism toward the present Government, of which he once formed a part, introduced the temperance question on April 29 by bringing in a bill giving control over the issue of licenses to the town council in boroughs and to the county council in counties, and inaugurating local option by providing that in any of the districts into which each borough and county constituency should be divided by the council, a separate licensing committee having control in each district, whenever two thirds of the rate payers vote for prohibition all licenses shall be revoked throughout the district, though not without compensation. He also proposed to simplify the licensing system by having only three kinds of licenses instead of twelve. Mr. Ritchie, President of the Local Government Board, assented to the plan of making the municipal and county councils the licensing authority, and welcomed Lord Randolph's adhesion to the principle of compensation, which disgusted the temperance party, while the feature that gave them the most satisfaction, that of the popular veto, he said the Government could not accept because it introduced a new principle into the Constitution, and because great public inconvenience, and even danger, might result if, by a vote representing a passing phase of popular opinion, all licensed houses in a district should be closed and the inhabitants prohibited drinking. Mr. Caine led the Opposition to Mr. Ritchie's local taxation bill, offering an amendment which, after three days' debate, was negatived on May 15 by a vote of 339 to 266.

The tithe bill, the land-purchase bill, and the

local taxation bill reached the committee stage only by means of an arbitrary decision of the Speaker, against which Mr. Gladstone protested as contrary to precedent, ruling out all instructions that were in conflict with the principle of the measure under consideration or so far at variance with it as to present an alternative scheme. Even this expedient could not repair the delays and mistakes, and when the ministers woke up to the situation in the middle of June, a party caucus was held at the Carlton Club to discuss the question of carrying over unfinished business from one session to another. On June 17 Mr. W. H. Smith laid before the House a proposal for a new standing order to enable bills that had been considered in committee to be revived in the next ensuing session of the same Parliament without debate in the earlier stages. On the demand of Mr. Gladstone the proposed change was referred to a select committee, where it was vigorously attacked by Sir William Harcourt, who pointed out that it would enable the House of Lords to exercise in a greater measure than at present the initiative in legislation. When the ministers came to the conclusion that it was necessary to abandon all the principal legislation of the year, they proposed to meet the difficulty by arranging that Parliament should begin the next session in November, a plan that the leaders of the Opposition thought ought not to be adopted without consulting Parliament.

The public agitation against the licensing clauses of the local taxation bill, called by Mr. Gladstone the "Publicans' Endowment bill," caused many supporters of the Government to waver. In committee the Government was almost defeated on the clause proposing to apply £350,000 to the purchase of licenses, many Conservatives having gone to the Ascot races on June 19, not expecting that the division would be taken, which resulted in a vote of 228 for and 224 against the clause. The Government offered to withdraw the licensing clauses and allow the money appropriated under them to accumulate until it should be dealt with by subsequent legislation. This scheme of "ear-marking" money in the Treasury was denounced by the Opposition as unconstitutional, and their objections were sustained by the Speaker.

Mr. Caine resigned his seat for Barrow in order to take the opinion of his constituents concerning his attitude toward the Government, which was made manifest by the election, not of himself, but of a thoroughgoing Gladstonian candidate. At Partick, in Scotland, at Bristol, and in nearly every by-election the reaction in favor of Irish home rule was shown by the increase of Gladstonian or the cutting down of Conservative majorities, and more than one constituency during the year sent a Home Ruler to succeed a Conservative.

The Western Australia Constitution, the postponement of which might provoke a quarrel with all the Australasian colonies, the Indian Councils bill, which was urged by the Indian Government and was elaborated in the Upper House, the police bill, which was required to rehabilitate the Home Secretary, Mr. Matthews, who barely escaped a vote of censure in consequence of the retirement of Mr. Monro, commissioner

of the metropolitan police, the barracks bill and the census bills, which admitted of no postponement, and the contentious votes in supply, all of which had yet to be debated, compelled the ministers to throw all the main measures overboard, notwithstanding Mr. Parnell's withdrawal of his alternative scheme of abating rents by Government aid and his avowal, which surprised his friends and allies no less than it did his adversaries, that the land purchase bill, with some comparatively trifling modifications, would prove acceptable. The bill for the cession of Heligoland demanded attention to the exclusion of all other business, and besides the strictures of Radicals and Parnellites on the surrender of the stronghold to Germany and the expatriation of British subjects without their consent and their criticism of the African policy of the ministry, Sir William Harcourt raised the question of the constitutionality of ceding British territory by statute, since it would take a part of the treaty-making power out of the hands of the responsible ministers by vesting the House of Lords with a right of control and veto over such cessions. After defining their views, they declined to take further part in the discussion. Ministerial difficulties were increased by the disaffection among the police, a partial strike of the postmen, and the refusal of a part of the Grenadier Guards to obey orders at Wellington Barracks.

The proceeds of the extra spirit duties, since they could not be hoarded until Parliament should agree to buy out the good-will of superfluous dramshops, must be applied to some purpose, and the Chancellor of the Exchequer proposed that in England and Wales and in Scotland they should be added to the residuary funds of the county councils for the relief of rates and that in Ireland they should be devoted partly to intermediate education and partly to laborers' dwellings. Scotch representatives opposed a determined resistance to the provision for Scotland, setting up, against the interests of property owners desiring to escape taxation, the claims of the people to free education, which they proposed to extend beyond the elementary branches that are compulsory by law to the whole school course. The police bills were opposed in like manner by a section of the Scotch members because the English bill proposed a higher scale of superannuation pensions than was adopted for Scotland. These bills having been carried, and other indispensable measures, including the census bills, the Government abandoned the Indian Councils bill and the bill for the regulation of savings banks, and made haste to wind up the business of the year.

In the debate on the Irish estimates, which lasted two weeks, the administration was called to account more particularly for the practice of "shadowing" by the police. In the discussion of the army estimates, Mr. Stanhope, Secretary of State for War, stated that the Government was prepared to go a long way in the direction of Lord Hartington's commission in respect to the reorganization of the War Office, though he did not intimate a readiness to go so far as to practically abolish the independent authority of the commander-in-chief. In the Western Australia Constitution bill the Government backed down

from the position taken the year before, a select committee having modified the bill in accordance with colonial demands by giving the colony absolute control of the vast unsettled regions that imperialists wished to have reserved for future disposition by the home Government. New regulations were appended to the legislation for stamping out and preventing the introduction of contagious cattle diseases. A bill fixing the liability of directors of companies, introduced in the Lower House by Mr. Warrington, was so amended in accordance with the strictures of Lord Herschell in the House of Lords that it lost most of its usefulness in the eyes of its original advocates. A bars and gates bill, introduced by Lord Rosebery, passed both houses, but with a compensation clause attached that defeated its essential purpose. A partnership bill and a bill for the revision of the statutes, introduced by the Lord Chancellor, were the principal other measures that passed into law, in addition to the amendments in the system of winding up limited liability companies, acts for the allotment of houses to the working classes, and measures for the extensive reconstruction of the army with the object of securing the health and improving the efficiency of the soldiers.

In the Queen's speech proroguing Parliament, on Aug. 18, mention was made of the Anglo-German and Anglo-French African agreements, to the result of the Brussels conference on the suppression of the slave trade, and the convention of the South African Republic respecting Swaziland, which the Volksraad had ratified shortly before. The adjustment of the dispute between the Newfoundlanders and French fishermen regarding the true interpretation of the rights of France under the treaty of Utrecht was spoken of as the subject of anxious attention, and it was announced that the British Government had offered to submit to arbitration the difference with the United States respecting the Behring Sea seal fisheries.

The Labor Agitation.—The dockers' strike in London and the activity of the State Socialists have brought into the ascendant ideas that have always been scouted by trades unionists of the old school, and this tendency was accelerated by the revelations of excessive hours, semi-starvation, unsanitary conditions, and overcrowding brought out by the investigations of the committee of the House of Lords on the sweating system which made its report in May, 1890. In the demonstration in favor of the eight hours' working day in Hyde Park, London, on June 4, nearly 500,000 people took part. The question was the chief issue before the Trade Union Congress, which opened at Liverpool on Sept. 1. The resolution in favor of a statutory eight hours' day was hotly contested by the representatives of the old and new schools, and the latter defeated an amendment declaring that the eight hours' day could best be obtained by the efforts of the unions was defeated by the small majority of 181 against 173. The original resolution demanding that eight hours should be made the limit by law for all trades, whether desired by the trades or not, was carried by 193 votes against 155. Mr. Broadhurst, the leader of the old school, was succeeded as secretary of the parliamentary committee by Mr. Fenwick, a member of Parlia-

ment elected by the miners of Yorkshire, who, with those of the midland counties, favored the legal eight hours' day, while those of Northumberland and the representatives of the old and wealthy unions opposed it. By its resolutions and instructions the congress pledged itself to forward the international labor movement and the federation of labor in all countries by every means in its power, completely reversing the former attitude on this question. The resolution that no Government or public contract should be given to a firm paying less than the union rate of wages was adopted as a matter of course. The more novel proposition that employers should be prohibited under penalty of imprisonment from contracting for the hire of labor outside the United Kingdom under penalty of imprisonment was approved with the same unanimity. Mr. Tom Mann's resolution that power be granted to municipal and county councils to establish workshops where persons thrown out of employment through no fault of their own shall be given employment at trade-union rates of wages was likewise adopted. The congress demanded in another resolution the repeal of all laws which make picketing illegal.

The Tithe War in Wales.—The resistance to the tithe in north Wales, which originated in the necessity of a reduction owing to agricultural depression, as to the amount of which the Ecclesiastical Commissioners, who own the tithes, and the Welsh farmers could not agree, soon passed into a politico-religious movement by which the Radicals hoped to overthrow the Established Church in Wales. The Nonconformists who have their Calvinistic Methodist, Congregational, and Baptist societies to support, were taught to see the injustice of being compelled to paying to keep up, not merely the almost empty churches in Wales, but Anglican institutions in England. The Anti-Tithe League was formed, and people began to refuse to pay tithes altogether, on the plea that they had conscientious scruples. The Rev. Thomas Gee, a Methodist minister, who edits the "Banner," and several of the Independent ministers proclaimed the doctrines, and when they had been generally accepted by the people, George Osborne Morgan, ex-Judge Advocate-General, and other members of Parliament espoused the cause.

The attorney of the Ecclesiastical Commissioners, with a party of emergency men, accompanied by a superintendent of police and twelve constables, visited Llanfeydyll, Denbighshire, on Aug. 11, 1890, for the purpose of distraining for tithe. A crowd gathered and swelled to such proportions and acted so menacingly that the distraining party was intimidated and left without accomplishing its object. A fortnight later, the Government having been induced to furnish military aid, they returned with an escort of hussars, and the tithes were collected in that parish and in Llansannan, amid the groans and hootings of the multitude. Resistance was offered at only two farms.

The Parnell Commission.—The report of the special commission, consisting of Sir James Hannen, Justice Day, and Justice A. L. Smith, appointed under the act of 1888 to inquire into the charges and allegations made against Mr. Parnell and his Irish colleagues, by the Attor-

ney-General, in the action of "O'Donnell vs. Walter," was presented to Parliament on Feb. 13, 1890. These charges were in substance the statements contained in the series of articles on "Parnellism and Crime" printed in the London "Times." The following were the conclusions reached by the three judges:

I. We find that the respondent members of Parliament collectively were not members of a conspiracy having for its object to establish the absolute independence of Ireland; but we find that some of them, together with Mr. Davitt, established and joined in the Land League organization with the intention by its means to bring about the absolute independence of Ireland as a separate nation. The names are those of Mr. Davitt, Mr. M. Harris, Mr. Dillon, Mr. W. O'Brien, Mr. W. Redmond, Mr. J. O'Connor, Mr. Joseph Condon, and Mr. J. J. O'Kelly.

II. We find that the respondents did enter into a conspiracy by a system of coercion and intimidation to promote an agrarian agitation against the payment of agricultural rents, for the purpose of impoverishing and expelling from the country the Irish landlords, who were styled the "English Garrison."

III. We find that the charge that "when on certain occasions they thought it politic to denounce, and did denounce, certain crimes in public they afterward led their supporters to believe such denunciation was not sincere" is not established. We entirely acquit Mr. Parnell and the other respondents of the charge of insincerity in their denunciation of the Phoenix Park murders, and find that the fac-simile letter on which this charge was chiefly based as against Mr. Parnell is a forgery.

IV. We find that the respondents did disseminate the "Irish World" and other newspapers tending to incite to sedition and the commission of other crime.

V. We find that the respondents did not directly incite persons to the commission of crime other than intimidation; but that they did incite to intimidation, and that the consequence of that incitement was that crime and outrage were committed by the persons incited. We find that it has not been proved that the respondents made payments for the purpose of inciting persons to commit crime.

VI. We find as to the allegation that the respondents did nothing to prevent crime and expressed no *bona fide* disapproval, that some of the respondents, and, in particular, Mr. Davitt, did express *bona fide* disapproval of crime and outrage; but that the respondents did not denounce the system of intimidation which led to crime and outrage, but persisted in it with knowledge of its effect.

VII. We find that the respondents did defend persons charged with agrarian crime, and supported their families, but that it has not been proved that they subscribed to testimonials for, or were intimately associated with, notorious criminals, or that they made payments to procure the escape of criminals from justice.

VIII. We find, as to the allegation that the respondents made payments to compensate persons who had been injured in the commission of crime, that they did make such payments.

IX. As to the allegation that the respondents invited the assistance and co-operation of and accepted subscriptions of money from known advocates of crime and the use of dynamite, we find that the respondents did invite the assistance and co-operation of and accepted subscriptions of money from Patrick Ford, a known advocate of crime and the use of dynamite, but that it has not been proved that the respondents or any of them knew that the Clan-na-Gael controlled the League or was collecting money for the Parliamentary fund. It has been proved that the respondents invited and obtained the assistance and co-operation of the Physical Force Party in America, including the Clan-na-Gael, and in order

to obtain that assistance, abstained from repudiating or condemning the action of that party.

There remain three specific charges against Mr. Parnell, namely:

(a) "That at the time of the Kilmainham negotiations Mr. Parnell knew that Sheridan and Boyton had been organizing outrage, and therefore wished to use them to put down outrage."

We find that this charge has not been proved.

(b) "That Mr. Parnell was intimate with the leading Invincibles, that he probably learned from them what they were about when he was released on parole in April, 1882, and that he recognized the Phoenix Park murders as their handiwork."

We find that there is no foundation for this charge. We have already stated that the Invincibles were not a branch of the Land League.

(c) "That Mr. Parnell, on the 23d of January, 1883, by an opportune remittance, enabled F. Byrne to escape from justice to France."

We find that Mr. Parnell did not make any remittance to enable F. Byrne to escape from justice.

The two special charges against Mr. Davitt, viz., (a) "That he was a member of the Fenian organization, and convicted as such, and that he assisted in the formation of the Land League with money which had been contributed for the purpose of outrage and crime," (b) "That he was in close and intimate association with the party of violence in America, and was mainly instrumental in bringing about the alliance between that party and the Parnellite and Home Rule party in America," are based on passages in the "Times" leading articles of the 7th and 14th of March, 1887. "The new movement was appropriately started by Fenians out of Fenian funds; its 'father' is Michael Davitt, a convicted Fenian." "That Mr. Parnell's 'constitutional organization' was planned by Fenian brains, founded on a Fenian loan, and reared by Fenian hands."

We have shown in the course of the report that Mr. Davitt was a member of the Fenian organization, and convicted as such, and that he received money from a fund which had been contributed for the purpose of outrage and crime, viz.: the Skirmishing fund. It was not, however, for the formation of the Land League itself, but for the promotion of the agitation which led up to it. We have also shown that Mr. Davitt returned the money out of his own resources.

With regard to the further allegation that he was in close and intimate association with the party of violence in America, and mainly instrumental in bringing about the alliance between that party and the Parnellite and Home Rule party in America, we find that he was in such close and intimate association for the purpose of bringing about, and that he was mainly instrumental in bringing about the alliance referred to.

A suit for damages brought by Mr. Parnell against the proprietors of the "Times" after the confession, flight, and suicide of the forger Richard Pigott, who sold the false Parnell letters to the "Times," was compromised for £5,000, one twentieth of the sum claimed, the plaintiff being reimbursed for all the costs actually incurred in bringing the action. The costs incurred by the Irish members in defending themselves before the Parnell Commission were about £40,000, and the burden of Lord Randolph Churchill's attack on the Government was that, instead of proceeding by the constitutional method of a trial by jury, with the right of challenge, against incriminated persons, who were at the same time political opponents, the Executive had constituted a special court, unknown to the Constitution, in which the judges united the functions of judge and jury, nomi-

nated the members of the tribunal, and inflicted on their political opponents a heavy penalty in the shape of a large pecuniary fine.

The Trouble in Tipperary.—At the instance of Mr. Parnell the "plan of campaign" was limited to the 10 or 12 estates on which it was originally started. The Government, refusing to yield to the pressure brought upon it to allow these estates to share in the act of 1887 and thus bring the conflict to an end, placed all its resources at the disposal of the landlords for the purpose of relentlessly pursuing the tenants. In all Ireland some 2,000 evicted families were living in the spring of 1890 in huts provided by the League near their former homesteads, supported by public subscriptions, confident of being reinstated in their possessions after the next general election, if not sooner. On the Clanricarde estate a settlement was almost reached in the summer, Lord Clanricarde, who had originally refused to make any abatement in his exorbitant rents, finally having agreed to a reduction of 20 per cent., which the tenants were willing to accept, on condition that the 140 evicted farmers should be restored to their holdings on the same terms, and 20 or 30 more who were threatened with eviction should be left undisturbed. Instead of complying, the landlord sent to Ulster for Protestant tenants, offering them the land at lower rents than the evicted men had paid with a free gift of the tenant-right, the homes, buildings, and other improvements created by the labor and capital of the latter and their ancestors. The plan of colonizing Protestant tenants on vacant farms had already been attempted on the Coolgreany and Massereene estates, causing great exasperation. Evictions on the Ponsonby estate, near Youghal, County Cork, which were begun in June, 1889, were resumed in April, 1890, and followed up till all the remaining tenants were cleared from the estate, which consists of 10,000 acres of good land, the greater part of it growing nothing but weeds and thistles, while the 200 evicted families lived in idleness in shanties on neighboring lands. The business of the town of Youghal was ruined. The tenants had offered to submit their demands to arbitration, which had been successfully carried out by Sir Charles Russell in the dispute on the Vandeleur estate. Being refused, they had entered into negotiations to buy the estate, and the bargain was nearly consummated on terms that the embarrassed proprietor considered very hard, when Arthur Hugh Smith-Barry, owner of half the town of Tipperary and much valuable land in its neighborhood, intervened to save his fellow-landlord by organizing a syndicate to farm his land, which placed upon it 1,400 head of cattle and 600 sheep, and obtained a profit exceeding the rent. The "plan of campaign" was declared on the estate of Mr. Smith-Barry, whose tenants had no grievance of their own, and Mr. William O'Brien and Mr. John Dillon, with their lieutenants, concentrated their efforts upon Tipperary, while the Castle Government developed extraordinary energy in frustrating the "plan" in that town, where only rigorous boycotting could prevent ruined tradesmen and farmers from resuming the occupations that once made them prosperous. The organizers of the "plan" were successful, and, one

after another, the men who remained on the estate were forced to give up their premises and join the combination. To combat boycotting the Government resorted to the new custom called "shadowing." Persons suspected of inciting or encouraging boycotting were attended wherever they went in public by a policeman in uniform, or sometimes by two, one walking at the side and the other close at the heels of the suspected individual. In this manner the popular priests, Father Humphreys and Father Kennedy, were dogged about. The practice was loudly denounced by Mr. Gladstone and his followers as an abomination, a degrading punishment without trial. Boycotting notices bearing the names of Mr. Smith-Barry's tenants who secretly paid rent were posted on June 24 and Aug. 18, crops were destroyed, windows were smashed, shots were fired on various occasions, several rude bombs were exploded, and the police were assaulted, but only twice, for they were everywhere present in numbers, and an English regiment was quartered in the town as a reserve force. In September fresh evictions took place, and the last of the tenants were driven from the Youghal and Glensharold estates.

On Sept. 16 a warrant was issued for the arrest of William O'Brien and John Dillon, together with Thomas Joseph Condon, David Sheehy, and Patrick O'Brien, three other members of Parliament, the Rev. David Humphreys, and six others, on the charge of having taken part in a criminal conspiracy to induce persons not to pay rent to Arthur Hugh Smith-Barry. Their arrest took place just as the two leaders were on the point of embarking for the United States, and was attributed to a desire on the part of the Government to defeat their mission. With the prominent Nationalists who hastened to Tipperary when the trial opened on Sept. 25 went John Morley. A crowd assembled to receive Patrick O'Brien, who was conveyed as a prisoner on the same train, raised a cheer for the ex-Chief Secretary for Ireland, whereupon the police charged with their batons. When the hour for the trial came people gathered before the gates of the court-house and struggled for entrance. The police, who had orders to admit only those interested in the trial, repeatedly drove them back with their clubs, wounding many, among them Mr. Harrison, member of Parliament for Tipperary, and provoking the citizens to fury, until finally Col. Caddell, the district magistrate, was persuaded to open the doors. Mr. Dillon and Mr. O'Brien both objected to being tried before Resident-Magistrate Shannon, but their objection was overruled. The trial was postponed, the procedure of the obsolete act of Edward III precluding appeal was adopted, and the two prisoners, who had given bail, determined to escape in order to fulfill the mission to America intrusted to them by the Convention of the Nationalist party held in Dublin. Leaving Dublin clandestinely, they sailed in a pleasure yacht to Cherbourg, and took passage on a steamer for New York in the middle of October.

The conference of the Irish Parliamentary party convened at Dublin on Oct. 6, by Mr. Parnell, although he remained away, passed resolutions: (1) Demanding that the bodies of tenants

evicted in a mass by the Irish Executive acting in conjunction with syndicates of landlords, although they have always been willing to submit their claims to arbitration, should, by a legislative enactment, be restored to their holdings on terms similar to those of the act of 1887; (2) calling on the Government in view of the fact that a large part of the population in all the western seaboard counties is in imminent danger of famine, to introduce a bill to suspend proceedings for the recovery of rent in holdings under £20 a year, and draw plans for useful and reproductive works to save the people from starvation; (3) expressing amazement and indignation at the arrest of five members of Parliament, in presence of a threatened famine, on the eve of the departure of two of them to America to invoke aid for the suffering people, and appealing for subscriptions to enable the Tenants' Defense Association to frustrate the latest despairing device of the Tory coercionists; (4) commissioning John Dillon, William O'Brien, T. D. Sullivan, T. P. O'Connor, Timothy Harrington, W. Abraham, and T. P. Gill, to proceed to the United States for the purpose of explaining the circumstances of the struggle in Ireland and the enormous burden placed on the national resources by the late wholesale clearances and the heavier expenditure necessitated by the coming general election.

Contest over the Irish Leadership.—The suit of Capt. William H. O'Shea for a divorce from his wife, Catherine O'Shea, a daughter of the Rev. Sir John Puge Wood, and sister of Gen. Sir Evelyn Wood, in which Charles Stewart Parnell was made corespondent, came up for trial on Nov. 15, the petition having been pending since Dec. 24, 1889. It had been averred that Mr. Parnell would come out of the trial "without a stain on his honor," and a denial was entered; yet when the case was called, Mrs. O'Shea's lawyer announced that he did not intend to cross-examine or call witnesses or take any part in the proceedings, and no one appeared for Mr. Parnell, the respondent having chosen to let the case go undefended. Testimony was offered to show that since Mr. Parnell first became acquainted with Capt. O'Shea, in 1880, when the latter was elected to Parliament, and was introduced into his home, the Irish leader had secretly visited Mrs. O'Shea in her husband's absence, had lodged in her house, and had met her in other houses rented under false names; and that, so far from conniving, Capt. O'Shea had exerted all his influence over his wife to induce her to cease to communicate with Mr. Parnell; had challenged him to a duel when his suspicions were first confirmed; had been answered by both with ingenious and circumstantial falsehoods; and had endeavored to the last to put an end to the scandal, for his children's sake. On the verdict of the jury, affirming adultery with no connivance on the husband's part, Justice Butt, on Nov. 17, pronounced a decree dissolving the marriage.

The Irish Parliamentary party, feeling that the suit had been brought for political ends, were not inclined to desert their leader, although the case of Sir Charles Dilke furnished a precedent for the view that, in the Liberal party at least, a man against whom a similar charge of immorality had been established in the divorce court

could not remain in public life or aspire to high office. Not alone the Tory journals put forward this opinion: the "Nonconformist conscience" was aroused, and everywhere the organs of the dissenting religious bodies, whose members form the main strength of the Gladstonian Liberal party, demanded the retirement of the Irish leader, while Mr. Gladstone waited for the colliding currents of public sentiment to produce their effect. Many Gladstonian politicians were opposed to a change in the Irish leadership, and the Irish priesthood, who are not less earnest sticklers for domestic purity than the Nonconformists, kept silence or pronounced for Parnell, on the assumption that he would yet clear his character. He gave no sign of yielding to the clamor of the English and Scotch Nonconformists. On the day when the decision of the court was rendered he issued his usual circular as leader of the party. On the eve of the assembling of Parliament, Nov. 25, perceiving the unlikelihood of Mr. Parnell's spontaneously retiring, Mr. Gladstone, who had convinced himself that antipathy to Mr. Parnell was likely to lead to wholesale defection to the Unionists, asked Justin McCarthy to acquaint Mr. Parnell with his conclusion that, "notwithstanding the splendid services rendered by Mr. Parnell to his country, his continuance at the present moment in the leadership would be productive of consequences disastrous in the highest degree to the cause of Ireland," and to expand this conclusion by adding that it "would not only place many hearty and effective friends of the Irish cause in a position of great embarrassment, but would render my retention of the leadership of the Liberal party, based as it has been mainly upon the prosecution of the Irish cause, almost a nullity." Mr. Morley had a long interview with Mr. Parnell after Mr. McCarthy had delivered the message, and afterward Mr. Gladstone expostulated with him but could not move him from his determination to remain at the head of the party. On the following day the caucus of the Irish members with enthusiasm unanimously re-elected Mr. Parnell chairman of the party, without a dissenting vote, and he declared that he would continue to discharge the duties of leadership, thanking them for their fresh proof of confidence, but making no mention of Mr. Gladstone's anxious appeal. The Gladstonian Liberals did not conceal their dismay, and the Conservatives and Liberal Unionists were elated at an event that they felt confident would disrupt the Home Rule alliance. None of the Nationalists besides Mr. McCarthy knew of Mr. Gladstone's *ultimatum* until after the caucus, when it was communicated to them, and also to the press. Seized with consternation, they held a second meeting, but could take no action, as their chairman was absent. Many of his followers expected that, in view of the state of British feeling, he would resign after receiving a vote of confidence. When they knew of Mr. Gladstone's intimation that he would retire if Mr. Parnell did not, 38 of the Nationalist members pledged themselves to insist on his laying down the leadership. On the following day two prolonged meetings were held, over which Mr. Parnell presided. Many of the Nationalists and Gladstonian Home Rulers blamed Mr. McCarthy because he did not explain the situation

to the Irish members before they re-elected Mr. Parnell, notwithstanding the fact that Mr. Gladstone had asked him to treat his oral communication as confidential if he found that Mr. Parnell contemplated spontaneous action. In the first meeting, on Nov. 26, Justin McCarthy, Mr. Sexton, and many others, while attesting their appreciation of Mr. Parnell's sacrifices in the Irish cause, urged him to retire, but in the adjourned meeting a reaction among the minor members of the party manifested itself, and the meeting closed with the expressed hope that, by means of negotiations with the Gladstonian leaders, a way out of the difficulty might be found. It was adjourned till an expression of opinion could be received from the Irish delegates in the United States. All the Gladstonians who had opposed the expulsion of Mr. Parnell abandoned that attitude when Mr. Gladstone's letter to Mr. Morley recapitulating the *ultimatum* conveyed by Mr. McCarthy was published.

Before the next meeting of the Nationalists, Mr. Parnell renounced the Gladstonian alliance in a defiant manifesto to the Irish people, in which he revealed and denounced as inadequate the proposals of home rule made by Mr. Gladstone and Mr. Morley at a confidential interview at Hawarden in November, 1889, and hinted that Mr. Morley endeavored to influence his action by offering him the post of Chief Secretary for Ireland in the next Liberal ministry despite his declaration at Cork in 1880 that he would never accept office in a British Cabinet. The integrity and independence of a section of the Irish Parliamentary party having been apparently sapped "by the wire-pullers of the Liberal party," he said it was necessary for him to take counsel with the Irish people and to remind them and their parliamentary representatives since Mr. Gladstone, in his letter to Mr. Morley, had sought to influence them in their choice of a leader and claimed the right of veto upon the choice that "Ireland considers the independence of her party as her only safeguard within the Constitution." The threat that, unless Ireland concedes this right of veto to England, her chance of obtaining home rule would be indefinitely postponed, compelled him, without admitting the possibility of such a loss, to inform the Irish how little they would lose by not consenting to throw him to the "English wolves" howling for his destruction. At the Hawarden conference, Mr. Gladstone gave as his opinion and that of his colleagues that to conciliate English public opinion: (1) It would be necessary to reduce the Irish representation in the Imperial Parliament from 103 to 32; (2) in regard to the land question, it would be withheld from the control of the Irish Legislature, and he would renew his attempt to settle it by imperial legislation on the lines of the land purchase bill of 1886, but would not undertake to bring pressure on his party to adopt his views; (3) the Irish constabulary and the appointment of its officers must remain for an indefinite period under the control of the imperial authority, while the funds for its maintenance, payment, and equipment would be compulsorily provided out of Irish resources; (4) the appointment of the judiciary, including judges of the Supreme Court, county court judges, and resi-

dent magistrates, should be retained in the hands of the Imperial Government for ten or twelve years. Mr. Parnell, claiming constabulary control, judicial appointments, and agrarian reform as essential to home rule, was willing to humor English prejudices by proceeding by slow stages. He was indifferent as to the ultimate representation of Ireland in the Imperial Parliament after the attainment of powers of self-government equivalent to those possessed by a State of the American Union; but during the period of probation he insisted on retaining the full parliamentary strength of the party, deeming it "the height of madness for any Irish leader to imitate Grattan's example and consent to disband the army which had cleared the way to victory." He explained his vacillating attitude toward Mr. Balfour's land purchase bill by saying that Mr. Morley had induced him to oppose its second reading in order to appease the discontent of Mr. Labouchere and the Radicals, and even disclosed the tactics in regard to the measure that had been agreed on for the coming session. The fate of the evicted tenants having been advanced as an argument for his expulsion, he alluded to Mr. Morley's despair because a Liberal Government could not venture to assist them directly and an Irish Parliament would have no power to do anything for them, and boasted that he had provided for them so far and would be able to do so in the future. The manifesto ended with the following peroration:

Sixteen years ago I conceived the idea of an Irish parliamentary party independent of all English parties. Ten years ago I was elected leader of the independent Irish Parliamentary party. During these ten years this party has remained independent, and because of its independence it has forced upon the English people the necessity of granting home rule to Ireland. I believe that the party will obtain home rule only provided that it remains independent of any English party. I do not believe that any action of the Irish people in supporting me will endanger the home rule cause or postpone the establishment of an Irish Parliament. But even if the danger with which we are threatened by the Liberal party of to-day were to be realized, I believe that the Irish people throughout the world would agree with me that postponement would be preferable to a compromise of our national rights by the acceptance of a measure which would not realize the aspirations of our race.

Mr. Gladstone published a letter purporting to deny, yet in the main corroborating, Mr. Parnell's account of the conversation at Hawarden, but disavowing the formal, unanimous, and final character imputed to his proposals. He ended it with the following declaration:

(1) I have always held, in public as well as in private, that the National party of Ireland ought to remain entirely independent of the Liberal party of Great Britain. (2) It is our duty, and my duty in particular, conformably to the spirit of Grattan and O'Connell, to study all adjustments in the great matter of home rule which may tend to draw to our side moderate and equitable opponents; but for me to propose any measure except such as Ireland could approve on the lines already laid down would be fatuity as regards myself and treachery to the Irish nation, in whom, even by the side of Mr. Parnell, I may claim to take an interest.

Mr. Morley also published a statement, in which, without gainsaying the disclosures of the manifesto, he endeavored to remove the impres-

sion they produced. The Irish delegates in America, who had suspended judgment pending the appearance of Mr. Parnell's manifesto, telegraphed that they had read it with the deepest pain and were convinced that his continued leadership was impossible, Mr. Harrington alone dissenting. This was followed by a long manifesto, in which they paid tribute to the matchless genius and imperishable services of Mr. Parnell and ascribed the dangers into which he had plunged Ireland, compelling them to choose between his deposition and the destruction of their country's cause, to the resentment of a strong and proud spirit against ungenerous attacks.

The postponed meeting of the Nationalist members "to give Mr. Parnell an opportunity to reconsider his position" was called on Dec. 1, when Col. Nolan, in the interest of Mr. Parnell's retention, moved that the decision be deferred until they could ascertain the views of their constituents and meet in Dublin. Mr. Parnell accused Mr. Sexton and other opponents of having taken counsel with Mr. Labouchere and Prof. J. Stuart, a statement which they repelled, and called on the meeting not to sell him for nothing, but only for his full value. After two days of stormy debate, Col. Nolan's amendment was rejected by 44 against 29 votes. On Dec. 3 and 4 a compromise amendment, offered by Mr. Clancy, one of Mr. Parnell's supporters, with his approval, was discussed and adopted. Taken together with Mr. Parnell's statements during the debate, its effect was that Mr. Parnell should retire for a time from the leadership if assurances were obtained from Mr. Gladstone, Mr. Morley, and Sir William Harcourt, pledging them to a home rule measure giving the control of the agrarian question, the constabulary, and the appointment of judges, to the Irish Legislature.

A similar proposition had been discussed at a previous meeting, and, with Mr. Parnell's sanction, had been conveyed by Mr. McCarthy to Mr. Gladstone, who declined to give the guarantee because he did not think it right to interfere in the internal discussions of the Irish party and because it could not be kept secret. He also declined to treat with Mr. Parnell as leader of the Irish party. In explaining his position, on Dec. 4, Mr. Parnell spoke of Mr. Gladstone as an "unrivalled sophist," with whom it is as impossible to give a direct as it is for himself (Parnell) to give an indirect answer to a plain and simple question.

My responsibility [he said] is derived from you to some extent, to a large extent, but it is also derived from a long train of circumstances and events in which many of you, and I speak to you with great respect, have had no share. My position has been granted to me not because I am the mere leader of a parliamentary party, but because I am the leader of the Irish nation. It has been granted to me on account of the services which I have rendered in building up this party, in assimilating prejudices, in smoothing differences of opinion, and in keeping together the discordant elements of our race within the bounds of moderation all over the world; and you, gentlemen, know, and I know, that there is no man living, if I am gone, who could succeed in reconciling the feelings of the Irish people to the provisions of the Hawarden proposals. I have explained to you why I can not surrender my responsibility in this matter; but I will go on to say, further, that, since you ask me to declare beforehand my views upon

these important questions, since you ask me to surrender to you beforehand my judgment upon these matters, I claim that this party in the face of their constituencies should by solemn resolution announce what their judgment is.

He accordingly offered a resolution declaring no home rule bill acceptable that did not confer the immediate control of the police and full power to deal with the land question on the Irish home rule authorities, and intimated his willingness to lay down the leadership if Mr. Gladstone would categorically pledge himself to these conditions. A committee of eight was appointed, Mr. Parnell being one, and four were delegated to seek the required assurances from Mr. Gladstone and his lieutenants. Mr. Gladstone would not recognize them as officially representing the party, refused to enter into negotiations in regard to Mr. Parnell's leadership, and desired to be disassociated from his party colleagues in any promises he might make. The resolution was altered in accordance with his desires. As he had made it a condition precedent to any discussion with the deputation that the question of Mr. Parnell's leadership should first be disposed of by the Irish party, the opponents of Mr. Parnell attempted to put a resolution deposing him; but Mr. Parnell seized the copy of the resolution while Mr. McCarthy was reading it. Great confusion resulted, which ended in the withdrawal of the majority of 45 members, leaving Mr. Parnell and 26 supporters in possession of the meeting. The seceders who followed Mr. McCarthy held a separate caucus elsewhere and elected him chairman.

The contest was then removed, as the Parnellites desired, to the soil of Ireland, where the staff of the National League was faithful to Mr. Parnell, and he was still the official and the effective head of the party. The "Freeman's Journal," the most influential Nationalist newspaper, adhered to Mr. Parnell. He was also the chief owner of "United Ireland," the weekly organ of the League, which opposed him, and when he reached Dublin, with the aid of the sheriff, he forcibly took possession of the premises, destroyed the forms, turned out the editor-in-charge, Mr. W. O'Brien's deputy, and had a new edition prepared in his interest. The former managers regained possession of the offices after Mr. Parnell had left town, whereupon he returned and ejected them a second time by physical force. The papers that were printed were seized when on the way to the post-office by a party of bold spirits of the kind that has been called "Mr. Parnell's Police," who threw the whole edition into the Liffey. The evicted editors prepared another anti-Parnellite sheet, which was printed under the name of "Suppressed United Ireland," and this the anti-Parnellites attempted to suppress in turn by legal proceedings, on the ground that it was an infringement under the trade-mark and copyright laws. Mr. Parnell's position in the constituencies was strong always, and it had improved daily. The municipal councils and other public bodies in Dublin, Cork, Waterford, Galway, and many other places pledged themselves to his support, the most active branches of the National League, of which he remained president, were all on his side; and popular demonstrations in the principal towns proved that his name was

still potent. On Dec. 8 the Roman Catholic hierarchy threw the whole weight of their influence in the opposite scale by publishing a declaration, signed by 22 bishops, in which they pronounced Mr. Parnell "convicted of one of the gravest offenses known to religion and society," to be a man "dishonored and wholly unworthy of Christian confidence," and unfit to be the Irish leader for the additional reason that his continuance would rend and disorganize the party and lead to inevitable defeat at the approaching general election, and, as a result, "home rule indefinitely postponed, coercion perpetuated, the hands of the evictor strengthened, and the tenants already evicted left without the shadow of a hope of being ever restored to their homes."

The rupture between Gladstone and Parnell enabled the Government to make an extraordinary start in legislative business. Instead of the usual interminable debate on the address, not a single amendment was offered, and it was adopted on the opening day. By Dec. 10, when Parliament took a recess over the holidays till Jan. 22, the whole legislative programme was launched, Mr. Parnell having gone to Dublin to lay his case before his countrymen, Mr. McCarthy assumed the position of Irish leader in the House of Commons for a day or two before the adjournment, after which all the Irish members hurried away to Ireland to rally the people to their several factions. The test of their respective strength was to be the approaching election of a member of Parliament for north Kilkenny. The clerical and anti-Parnellite candidate was Sir John Pope Hennessy, late Governor of Mauritius, who had once been a Tory and for many years the recipient of large salaries under the Government. The facts of his official career were made use of in speeches to the "hillside men" by Mr. Parnell, who selected as his candidate Mr. Vincent Scully, a popular and wealthy local landlord who had made large pecuniary sacrifices for the National League.

On Dec. 10 the anti-Parnellite section of the Irish party issued a manifesto to their fellow-countrymen, the longest of all, in which they began by saying that in the discharge of their sacred trust as representatives of Ireland, bound by supreme law of political duty to protect her cause, they had found themselves under the sad necessity, no matter at what sacrifice of feeling, of bringing to an end Mr. Parnell's leadership of the party. "We had to make a choice," they said, "between the safety of our nation and the ambition of one man. We decided for the safety of the nation." They said that they had undertaken, if Mr. Parnell voluntarily retired, not to fill his post during the session, but to let him nominate a committee to direct the party and let its future tenure be determined by his personal action and the course of political events.

Fierce scenes ensued on the arrival of the hostile leaders in Ireland. On Dec. 11, the office of "United Ireland" having been again taken possession of by the regular staff, Mr. Parnell and his friends forced an entrance, and recaptured the paper. He then journeyed to Cork, where he was received with unbounded enthusiasm after having met a hostile reception at Malin. On that day appeared a second pathetic manifesto from the leaders in America, ending with the words:

Finally, our cause once rescued from the present deadly peril, our race may rest assured that nothing which the tenderness of devoted colleagues can do will be left undone to heal whatever wounds may have been inflicted in the heat of the strife, and to do justice to Mr. Parnell's genius and work, so that history may drop a tear over the errors of a passionate hour, and may remember only the great Irishman and born leader of men, who found the Irish cause so plunged in helplessness and despair, and whose arm lifted that cause to the pinnacle of power and triumph.

A counter-manifesto from Timothy Harrington proclaimed his fidelity to Mr. Parnell. The Irish Democratic Labor Federation Mr. Parnell took away from the control of Mr. Davitt, just as he had formerly ousted the founder of the Land League, and in his speeches he appealed to the youthful and combative elements, to the labor advocates, and to the advanced Nationalists, notwithstanding his recent record of extreme moderation. By his speeches in Dublin and Cork he turned his back on the policy of conciliating the good-will that he had followed for ten years, and proclaimed one that could only secure the claims of Ireland by means of a rebellion. Before the Kilkenny election his cause received a serious blow when the executive committee of the American Irish Parliamentary Fund Association took a stand against him, protesting that they could not calmly consent "to have all that has been purchased for Ireland at such cost and sacrifice shattered and lost in an hour of passion." On Dec. 15 Mr. Dillon issued a manifesto in which he said that Mr. Parnell had plunged Ireland into a conflict for purely personal ends, and had used language and done acts revolting to every free-born man, and that unless he altered his course and ended his methods of procedure he was no fit leader for a nation aspiring to be free.

The old and trusted leaders of the party, who had borne the brunt of the parliamentary combat while he had reaped the honors, and had submitted with admirable discipline to his long absences, arbitrary directions, and arrogant demeanor, were now ranged in opposition to the discarded leader, who had against him also, with few exceptions, the priests of Ireland, many of whom were officials and managers of the local branches of the League, as well as the holders and contributors of the funds in the United States, while the petty politicians and the body of the electors began to desert the Parnellite side. Parnell developed a fiercer energy and assumed a more implacable attitude the greater the odds against him. Violent faction fights occurred in various places. In Tipperary the priests headed an onslaught upon the Parnellites who attempted to break up a meeting. In Kilkenny Mr. Parnell, with his adherents William Redmond, Edward Harrington, and Mr. Harrison, took the stump for Mr. Scully, while Michael Davitt and Dr. Tanner canvassed for Sir John Pope Hennessy. On Dec. 16 the Parnellites, having taken out the horses, dragged Mr. Parnell's carriage to the edge of the crowd that Mr. Davitt was addressing in the market-place of Ballinakill, and, after Mr. Parnell had spoken, made a rush upon the other meeting. Both sides engaged in a combat with sticks, and Mr. Davitt fought his way up to Mr. Parnell's car, and, with his face battered and streaming with blood, denounced the ruffianly tactics that his

opponents seemed to countenance. At Castlecomer the anti-Parnellites were the assailants, and in the fray a bag of line struck Mr. Parnell, causing a painful and dangerous inflammation of the eyes that lasted many days.

The result of the Kilkenny election was more favorable for the anti-Parnellites than they had hoped, Hennessy receiving 2,527 ballots against 1,365 cast for Scully. This serious reverse, the effects of which could not be removed by denunciation of clerical coercion of electors, impelled Mr. Parnell to enter into negotiations with Mr. O'Brien, who returned from the United States to act as mediator between the warring factions. On Dec. 30 they met at Boulogne, and repeated conferences between the chiefs of the divided party took place there, since neither Mr. O'Brien nor Mr. Dillon could carry on negotiations on British soil, having been condemned to six months' imprisonment.

The Potato Blight.—See FAMINES IN IRELAND.

Colonies.—The European dependencies of Great Britain, since the cession of Heligoland (see GERMANY), consist only of Gibraltar and Malta.

Gibraltar, in a space of less than 2 square miles, had a population of 24,089 in 1889, inclusive of the garrison of 5,708 men. The native population is mainly descended from Italian settlers from Genoa. It is an important coaling station for British vessels, the tonnage entered and cleared in 1888 having been 11,986,000. A site has been selected for a dock, which is to be built by private enterprise, with assistance from the British Government.

Malta is an island in the Mediterranean, 58 miles south of Sicily, having an area, with the dependent islands of Gozo and Comino, of 117 square miles. The population in 1888 was estimated at 162,423, of whom 2,138 were English. The Governor is assisted by an Executive Council and a Council of Government, the latter consisting of 6 appointed and 14 elective members. The revenue, two thirds of which are derived from customs and one sixth from land tax and rents, was estimated for 1889 at £228,332 and expenditure at £235,283. The common people speak a dialect of Arabic, the educated and the clergy use the Italian language, and about one seventh of the population have learned English. Sir Lintorn Simmons was sent as a special agent to the Vatican in the summer of 1890 to negotiate for an amendment of the marriage laws and for the substitution of English for Italian as the language of instruction in the seminaries and of worship. The canon law has been recognized as the law governing marriage in Malta, and according to this numerous mixed marriages and all civil and Protestant marriages that have been contracted are invalid. According to the arrangement with the Pope his authority to make the marriage laws is confirmed, but he has given a dispensation legalizing all marriages that have been contracted under English law.

In Asia and the neighboring seas, besides India and its dependencies, Great Britain possesses the island of Cyprus (still nominally a part of the Turkish Empire), Aden and Perim, Bahrein Islands, Labuan and North Borneo, the Straits Settlements, Ceylon, and Hong-Kong.

Cyprus has an area of 3,584 square miles and a population of 186,173, of whom 137,631 are Greek Christians, 45,458 Mohammedans, and 3,084 of other beliefs. The Government is administered by a High Commissioner, Sir Henry Ernest Bulwer, who was appointed in 1886. There is a Legislative Council consisting of 18 members, of whom 6 are official, 6 are elected by Christians, and 3 are elected by Mohammedans. The revenue in 1889 was £149,362 and the expenditure £109,963. The imports were valued at £232,807 and the exports at £210,297.

The rocky promontory of Aden, which is an important coaling station on the route to India, will soon be a strong fortress. There is an export trade in coffee, gums, skins, cloth, and tobacco. The island of Socotra, the Kuria Muria Islands, and the Somali coast protectorate, on the African coast opposite, are subordinate to the political resident at Aden, who is also the commander of the military force. The Somali protectorate in 1888 imported merchandise of the value of 3,329,210 rupees and exported 6,812,910 rupees' worth. Detachments of the Indian garrison of Aden occupy the ports of Zeila, Bulhar, and Berbera. The tribes of Harrar in August, 1889, raided Bulhar, killing 100 persons. To punish them an expedition was sent out in the following winter from Zeila, with orders to seize or destroy wells, and thus bring the authors of the raid to terms. The expedition was not entirely successful, and on its return it suffered considerable loss. Socotra, with an area of 3,000 square miles and a population of 4,000, produces aloes, and the Kuria Muria group, which was annexed in 1886, contains deposits of guano.

The Bahrain group in the Persian Gulf is ruled by a native chief, the Sheikh Esau, under British protection. There are 400 boats engaged in the pearl fishery. The exports in 1888 were 5,205,840 rupees, including pearls of the value of 3,207,000 rupees.

Labuan, a small island off the coast of Borneo, exports sago, India-rubber, gutta-percha, wax, and other produce of the Sunda Islands to Singapore. The trade is mostly in the hands of Chinese. The imports in 1888 were £71,591 and the exports £83,909. British Borneo, with an area of 31,000 square miles and a population of 175,000 natives and Mohammedan settlers, is the possession of a chartered company, which was taken under the protection of the British Crown on May 12, 1888. The revenue in 1888 was \$158,462, exclusive of \$80,000 from land sales, and the expenditure was \$185,922. For 1889 the revenue was estimated at \$218,365, the produce of land sales at \$200,000, and the expenditure at \$364,760. The exports are sago, rice, gums, coffee, pepper, gambier, gutta-percha, wax, edible birds'-nests, cocoa-nuts, rattan, seed pearls, *bêche-de-mer*, and cabinet woods, which are in great demand in China, and tobacco, which has rapidly taken the lead of all other products. The high price of fine wrappers led to experiments which turned out so favorably that tobacco planters flocked to the island. The movement was stimulated by the failure of the Sumatra crop in 1887 through drought, with the probability of frequent failures in the future. The export of leaf tobacco was 72,688 pounds in 1886, 30,800 pounds in 1887, and 81,664 pounds in 1888. The Gov-

ernment has sold about 600,000 acres of land for tobacco plantations. The quality of the Borneo tobacco is equal to the best Sumatra and brings the highest price in the market. The Dutch, who at first discouraged tobacco planting in their part of Borneo, have decided to open it to European enterprise, and have begun experimental plantations in the south near Sambar and in the west at Amonthay. In Sarawak also the culture is being tried. This territory, formerly governed as an independent state by Sir James Brooke and afterward by his nephew Charles Johnson Brooke, the present rajah, was taken under British protection, with the neighboring sultanate of Brunei, in 1888. Its area is 35,000 square miles, having a population of about 300,000. The revenue in 1888 was \$361,615, and in 1889 it exceeded \$400,000. From coal mines on the Sadong river the requirements of the Government are supplied and a considerable quantity is exported to Singapore. Great progress has been made in the cultivation of pepper, of which 1,000 tons were exported in 1889. Sago is another of the chief products, 11,000 tons having been exported in 1888. The exports amount to about \$1,500,000. Limbang, a territory that had thrown off the oppressive yoke of the Sultan of Brunei, was by request of the chiefs annexed to Sarawak in 1890. Ceylon has a Legislative Council composed of the 5 members of the Executive Council, 4 other officials, and 6 elected members. The present Governor is Sir Arthur Elibank Havelock, appointed March 12, 1890. The area is 25,364 miles and the population is 2,761,396, including 1,658 troops. The revenue in 1889 was 14,558,000 rupees. The imports in 1888 were 58,524,990 rupees and the exports 39,383,135 rupees. The export of tea was valued at 12,624,850 rupees and that of coffee at 7,729,242 rupees. Disease has greatly diminished the product of the coffee plantations. Other important articles of export are cocoa-nut oil, of the value of 6,832,116 rupees, plumbago, of the value of 2,232,778 rupees, cinchona, of the value of 1,844,012 rupees, cinnamon, areca nuts, and cordage. There are 180 miles of railroads.

The Straits Settlements comprise Singapore, Penang, Malacca, the Cocos Islands, which were attached to the colony in 1886, and Christmas Island, which was annexed in 1888. There is a Legislative Council composed of 10 officials and 7 unofficial members. Under the control of the British authorities are the native states of Perak, with 179,590 inhabitants; Selangor, with 120,000; Sungei Ujong, with 14,000; and Pahang, with 35,000. The revenue of the colony for 1890 is estimated at \$4,465,116. The chief exports are tin, sugar, pepper, nutmegs, maize, sago, tapioca, rice, buffalo hides, rattan, gutta-percha, India-rubber, gambier, gum, coffee, dye stuffs, and tobacco. The total value of imports in 1888 was \$159,270,650; of exports, \$134,298,435. The Cocos or Keeling group consists of about 20 coral islands producing considerable quantities of copra and cocoa-nut oil. The native states administered under the advice and control of British residents have outstripped the colony in prosperity. The revenue of Perak has risen from \$1,500,000 in 1885 to \$2,750,000 in 1889; that of Selangor, from \$566,000 to \$1,800,000; that of Sungei Ujong, from \$120,000 to \$356,000;

that of the Negri Sembilan, from \$20,000 to \$100,000. The development of the tin mines has produced these results. The residents have also encouraged agriculture. In Perak a good start has been made in the growing of pepper, sugar, tea, coffee, and rice, and promising experiments in the cultivation of tobacco and the mulberry tree. The same crops, with the exception of tobacco, have proved successful in Selangor. The exports of tin from these two states have risen from 162,000 piculs, or about 100 tons, in 1885, to 235,000 piculs in 1889; those of tin ore from 82,000 to 182,000 piculs. The Chinese, working very economically and with their own countrymen, have amassed fortunes from the tin mines, whereas several English companies have failed. The colony of the Straits Settlements occupies an area of 1,385 square miles, with a population of 569,000 in 1889, while the native protected states, covering 23,609 square miles, have only 380,000 inhabitants. The combined revenue of the colony and native states surpasses that of the great crown colony of Ceylon, being \$9,700,000 in 1889, with a total expenditure of \$7,900,000.

Hong-Kong is a military and naval station in the Sea of China and the main center of the Chinese export trade in tea and silk, of the opium trade, and of British commerce with China and Japan. It is an island at the mouth of the Canton river, 11 miles long and 2½ in average breadth, with a population of 215,800. There were 7,990 whites in 1881. The ordinary revenue in 1888 was \$1,557,300; the revenue from premiums on land, \$160,688; the ordinary expenditure, \$1,461,459; extraordinary expenditure, including defensive works, \$530,870. The trade of Hong-Kong is chiefly with Great Britain, India, the United States, Germany, Australia, and the Straits Settlements. The imports are estimated at \$20,000,000 and the imports at \$10,000,000.

The British possessions in Africa have been vastly enlarged by the protectorate of Zambesia in south central Africa and the sphere assigned to England in the Anglo-German agreement (see EAST AFRICA). The aggregate area of the British possessions and spheres of influence is estimated at 1,909,445 square miles, not including the regions formerly ruled by the Khedive of Egypt, covering 1,400,000 square miles more. Besides the old colonies of the Gold Coast, Lagos, Sierra Leone, and Gambia, an extensive territory has lately been acquired on the west coast in the Niger region through the activity of a chartered trading company. All the coast stations import spirits, tobacco, hardware, and cotton goods, and export palm oil and kernels and India-rubber. Ground-nuts are also an important product of the coast; there is some trade in ivory, gum copal, and other forest products, and in Gambia and Lagos cotton is raised. Gambia was made administratively independent of Sierra Leone in December, 1888. From Lagos, which is an island on the Slave Coast, and from Sierra Leone, which now includes the island of Sherbro, British influence is being extended into the interior. There are not more than 600 white people on the whole coast. The revenue of the four colonies in 1888 was £238,886 and the expenditure £278,955. The imports were £1,227,380 and

the exports £1,347,088. British merchants have for their chief competitors the Germans. The Houssa constabulary made an excursion from Sierra Leone in the first half of 1890 to the Shaingay district to quell tribal disputes, and on the Kroo coast a British gun vessel punished wreckers. In the interior of the Gold Coast disturbances arose in connection with a boundary dispute with Germany, and in May the English commander of the constabulary was killed in an affray in the Krepi country. In July Capt. Power led an expedition from Lagos into the district behind Accra near the Ashantee country. The difference regarding the delimitation of the Gold Coast colony and the German protectorate of Togo was provisionally arranged by the establishment of a neutral zone in 1888, but the limits were not understood or were disregarded, and in the Anglo-German agreement of July 1, 1890, a clearer agreement was made. Between the Oil Rivers and Cameroons a conventional line has also been provisionally adopted to prevent collision between the British and German authorities pending a survey of the creeks and rivers by naval officers of both countries and a final demarkation in accordance with the provisions of the agreement of 1885.

The Royal Niger Company acquired practical control of the river before the end of 1885 by concluding treaties with the sultans, emirs, and other chiefs, outstripping the Hamburg traders, whose emissary, Robert Flegel, had discovered the commercial possibilities of the region. The French, whose political influence was formerly predominant, formed a company to contest the commercial supremacy; but, disappointed in not obtaining a government subsidy, they sold out to their English rivals. Under the Congo act the Niger is an international free-trade river; but the company, which is the political administrator of the country and is empowered by the Anglo-German agreement of June 2, 1885, to collect dues and taxes sufficient to enable it to carry out the obligations imposed on the British Government by the protectorate, has obtained a monopoly of the trade in palm kernels, ivory, and the other products of the region by imposing exorbitant import and export duties, by forbidding merchants to trade at ports or landings except such as are specified in regulations issued by the company and arbitrarily closing ports where they have established commercial relations with the natives, and also by exacting a trading license of £50, which has had the effect of driving away the native traders from Lagos who used to visit the upper courses of the Niger and the Benue. A German merchant named Hönigsberg who landed at a forbidden spot had his vessel seized and was expelled from the Niger region by the company's officers. Through the German Government he presented a claim for £5,000 damages. The German Commissary for the Togo district, Herr von Puttkamer, ascended the Niger, entering by the Forcados mouth in order to avoid contact with the officers of the company, which has a station and custom house at Akassa on the Nun month, the only entrance to the Niger that is safe and passable at all seasons. His mission was to investigate the case of Herr Hönigsberg and the complaints of other German merchants against

the company, which did not differ from those raised by British merchants. He found that Nupe, the territory where Herr Hönigsberg was arrested, was independent of the sultanate of Gandu, and was therefore not included in the British protectorate, the extent of which was defined in the official notification of Oct. 18, 1887. Consequently vessels and goods passing up the Niger to Nupe have no duties to pay or regulations to observe. He reported that the territory of the company ends below the confluence of the Niger and Benue at Lokoya, and that it was doubtful whether any districts on the Benue beyond Nupe were subject to the company's jurisdiction. In regard to the assertion that the high duties were necessary to enable the company to discharge its administrative duties, he found that £250,000 of capital alleged to have been applied to securing territorial rights was treated as a public debt of the Niger region, and £12,500 were paid as interest to the subscribers out of the receipts of the administration. The company was accused of imposing a prohibitive duty on spirits to shut out the Hamburg merchants, and at the same time carrying on an active trade in the article. In accordance with the Brussels general act the sale or barter of spirituous liquors north of 7° of north latitude has been forbidden. The German traders were disappointed in their expectation of gaining access to the Benue by the extension of the German sphere from the Cameroons to Nupe as their Government did not care to contest the claims based on the treaties made with the Sultans of Gandu and Sokoto by Joseph Thomson. The native rulers said that they supposed English, French, and Germans to be all the same, and that in making those treaties they were opening their countries to general European intercourse. The Niger Company repaired its omissions by making a separate treaty with the King of Nupe and others with the chiefs in the northern part of the old Yoruba Kingdom which lies between Nupe and the German protectorate and also approaches the French possession at Abeokuta. The French, who had some claim over the region, agreed to limit their sphere by a line drawn from Badagry, on the western boundary of Lagos, north to 9° of north latitude and thence northward. The earlier treaties, which were rather of a commercial than of a political character, have since been replaced by others giving the company full civil, fiscal, and criminal jurisdiction in Sokoto and Gandu, and a treaty with the large and important Kingdom of Borgu secures the middle Niger from French interference either from the Western Soudan or from the direction of Dahomey. The Anglo-French agreement delimits the English and French spheres on the Niger, but not in the Central Soudan, and the French and the Niger Company are each endeavoring to anticipate the other to the south and the east of Lake Tchad.

The total population under British control in the region of the Niger and the Oil rivers is estimated at 12,000,000. The chief article of export, as in the west coast colonies, is the produce of the cocoa-nut palm, the oil as extracted by the natives by fermentation in pits, or the kernels or copra.

The Oil Rivers district, the low, unhealthy

delta of the Niger, forms a complicated network of creeks, most of them flowing out of the Niger, although the principal of the Oil rivers, the Calabar, and some of the others have no connection with that river. British traders have been established there for a century, but until the race for African possessions began the British Government had no desire to claim the country because they were slave holders formerly and were still employers of slaves and many of the natives were cannibals. The district, under an order of council issued in 1885, has been governed by a consular staff. In the latter part of 1889 some of the Liverpool merchants who do business there petitioned to have it incorporated in the Niger territory, while others were in favor of annexation to the crown colony of Lagos. They first applied for a separate royal charter after uniting in a company with a nominal capital of £2,000,000, four times the fixed capital of their African establishments. They had no chance of obtaining a charter for themselves when the fact came out that they shipped 10,000 hogsheads of gin to the Oil rivers annually. They formed themselves into an African Association for the very purpose of preventing the country from being handed over to the Niger Company and their prosperous trade from being ruined by high tariffs. In consequence of the complaints from all quarters the Niger Company reduced the import duties, but did not change the still more objectionable and restrictive duties on exports. The trade of the Oil Rivers for the three years ending with 1888 amounted to the average of £1,800,000, of which over £1,000,000 were exports. Except Hamburg spirits the imports are mostly of British manufacture. Besides palm oil and kernels, rubber is exported in considerable quantities, the natives in the peaceful districts having in recent times been taught to prepare it. The most important of the islands belonging to Great Britain near the coast of Africa is Mauritius, formerly a French colony, which was under direct Crown administration till 1885, when an elective element was introduced. The Executive Council is composed of 7 members, and of these 5 are the chief officials of the colony and 2 are delegates from the Council of Government, selected from the elected members, of whom there are 10, while 9 are appointed by the Governor and 8 are official. The present Governor is Sir Charles Cameron Lees, appointed in 1889. The area of the island is 708 square miles. The population on Jan. 1, 1889, was 369,302, of whom 207,157 were males and 162,145 females. The Indian population numbered 251,550, and the remainder of 117,752 was made up of whites, Africans, mixed races, and Chinese, of whom there were 3,935. The revenue in 1888 was 8,574,038 rupees, and the expenditure 7,771,579 rupees. The imports were valued at 15,341,202 rupees and the exports at 32,291,978 rupees, 28,754,798 rupees representing the staple product of the colony, raw sugar. The white people of the island are French Creoles, who cling to their old language and customs in spite of attempts to anglicize them. A society formed for the preservation of the French language among the people, called the French Alliance, was recently forbidden by the Archbishop of Port Louis, and its

members sent a petition to the Pope protesting against the persecution of a body which had received the approbation of other ecclesiastical dignitaries.

Besides the islands and groups adjacent to Australia and New Zealand, there are Royal Company, Macquarie, Emerald, Campbell, Antipodes, and Bounty islands, lying far to the south, and in all parts of the Pacific scattered groups of coral reefs, producing cocoa-nut products, and of guano islands belonging to Great Britain, all of which are under the civil and criminal jurisdiction of the High Commissioner of the western Pacific, who is at the same time the Governor of Fiji. The recently annexed Cook or Hervey islands have about 9,200 inhabitants. Some of the islands have been acquired as stages for the telegraph route between British Columbia, New Zealand, and Australia, or as coaling stations for steamer routes from Vancouver and the Isthmus of Panama to Australian and Asiatic ports. The most important are the Savage or Inue, Manihiki, Swallow, Dudoza, Roggevein, Union or Tokelau, Phoenix, Malden, Starbuck, Penrhyn or Tongarewa, Caroline, Lagoon or Ellice, Christmas, Fanning, Washington, Jarvis, and Exchequer islands and groups.

In North and South America and the adjoining seas, besides Canada and Newfoundland, some of the most important of the sugar-producing islands of the West Indies, the sugar colony of British Guiana, the Bermudas, the Bahamas, the Falkland Islands, and British Honduras in Central America are subject to the British Crown.

The Bermudas, a group of 360 small islands, of which not more than 20 are inhabited, lie 580 miles east of Cape Hatteras and are 677 miles distant from New York. They have an area of 20 square miles, one third of which, about 4,000 acres, is cultivated, producing potatoes, onions, and other garden products and lily bulbs. They are visited in winter by large numbers of Americans, who are attracted by the climate and scenery. The population in 1889 was estimated at 15,534, of whom 6,155 were whites. The revenue in 1888 was £29,872 and the expenditure £30,147. The imports amounted to £299,990; exports, £99,650. Nearly the whole of the exports go to the United States, and about two thirds of the imports come from that country.

The Bahamas, lying off the southeast coast of Florida, are also a winter resort for Americans. There is a representative assembly of 20 members. Their area is 5,450 square miles, and the population in 1888 of 43,000, three fourths of whom are colored. The sponge fishery was until recently the only important industry. Besides sponges, shells, pearls, and ambergris are exported, and now pine-apples are exported in large quantities, either in a fresh or preserved state; pears are also preserved, and the cultivation of fiber has been begun on a large scale. The largest of the British West India Islands is Jamaica, having an area of 4,424 square miles, with a population of 580,804, including 14,432 whites, 109,946 colored, and 444,186 pure blacks, the remainder being Chinese and Indian coolies. The Governor is Sir Arthur Blake. The Legislative Assembly is composed of both elected and nominated members. Of 598,173 acres under

cultivation in 1888, the sugar-cane plantations occupied 35,303, a decrease of 11,000 in ten years; coffee, 17,462; ground fruits, 73,786; Guinea grass, 121,689. Turk's and Caicos islands, attached to Jamaica, are a source of supply for salt that is used in curing fish and provisions in the United States, Canada, and Newfoundland, about 2,000,000 bushels being exported annually. The Windward Islands consist of Grenada, St. Vincent, the Grenadines, and St. Lucia. The three principal islands have separate administrations. Grenada is 120 square miles in extent, with 49,337 inhabitants; St. Vincent has an area of 122 square miles, with 46,872 inhabitants; and St. Lucia has an area of 245 square miles and a population of 42,504 souls. The exports are sugar, rum, cacao, cotton, spices, arrowroot, logwood, and timber. The cultivation of the sugar-cane is decreasing, and that of cacao and cotton on the increase. Barbadoes, having an area of 166 square miles and a population of 171,860, including 15,672 whites and 662 military, is the headquarters for the British troops in the West Indies. The chief product is sugar. The Leeward Islands comprise Antigua, having an area of 170 square miles and a population in 1886 of about 35,000; Barbuda and Redonda, area 62 square miles; Virgin Islands, area 58 square miles, with 5,000 population; Dominica, area 291 square miles, with 29,500 inhabitants; St. Kitt's, area 65 square miles, with 45,000 inhabitants; Nevis, area 50 square miles, with 12,000 inhabitants; Anguilla, area 35 square miles, with 11,680 inhabitants; and Montserrat, area 32 square miles, with 10,000 inhabitants. The total population in 1881 comprised 5,000 whites, 23,000 of mixed blood, and 94,000 blacks. Sugar, pine-apples, lime juice, cotton, cacao are exported. Trinidad, with Tobago, has an area of 1,868 square miles and 209,503 inhabitants. Sugar, cacao, and coffee are cultivated and asphaltum is exported. The total revenue collected in the British West Indies in 1888 was £1,623,693 and the expenditure of the local governments was £1,526,992. The imports of all the islands amounted to \$5,512,583 and their total exports were £5,733,674.

British Guiana has an area of 109,000 square miles and a population in 1889 of 278,477, of whom less than 2,000 are Europeans. The revenue in 1888 was £461,941 and the expenditure £490,556. The imports were valued at £1,586,055. The export of sugar was £1,606,990; rum, £93,118; molasses, £73,604; gold, £35,566. The total exports amounted to £2,024,733.

British Honduras is a crown colony. It has an area of 7,562 square miles and a population of 27,452. The revenue in 1888 was £43,511 and the expenditure £41,587. Besides the staple products, which have always been mahogany and logwood, there is a growing production of bananas, plantains, and cocoa-nuts for the American market. Sugar and cotton are cultivated, and the transit trade in India-rubber, sarsaparilla, and coffee is increasing. A scheme for improving the sanitary condition of Belize has been improperly carried out, resulting in an outbreak of virulent yellow fever, for which the inhabitants blamed the Governor.

The Falkland Islands, 300 miles east of Magellan Straits, have an area of 6,500 square miles,

with about 1,890 inhabitants. The wool export in 1888 was £76,573 in value. The export of frozen mutton has been important in recent years, 30,233 carcasses having been sent to England in 1886 and 40,391 in 1887, but in 1888 there were no shipments. The value of imports in 1888 was £54,008; of exports, £88,743.

GREECE, a constitutional monarchy in south-eastern Europe. The revised Constitution vests the legislative power in a Chamber of 150 Deputies elected for four years by universal suffrage. Every candidate to be placed in nomination must have the support of one thirtieth of the electors in his district. The annual session of the Boulé or Legislative Assembly must last for not less than three, and not more than six months. A bill becomes law that is voted three times on separate days. The Legislative Assembly has the power, after a lapse of ten years, to amend such provisions in the Constitution as are not reserved as fundamental laws.

The reigning King is Georgios I, formerly Prince Wilhelm of Denmark, born Dec. 24, 1845. The heir-apparent is his son Konstantinos, born Aug. 2, 1868. The following ministers, who entered office on May 21, 1886, formed the Cabinet in the beginning of 1890: C. Tricoupis, President of the Council, Minister of Finance, and Minister of War; D. S. Voulpiotis, Minister of Justice; E. Dragounis, Minister of Foreign Affairs and acting Minister of the Interior; G. Theotokis, Minister of Marine and acting Minister of Worship and Education.

Area and Population.—The area of the kingdom is 25,041 square miles. The census of 1889 makes the population 2,187,208, showing an average annual increase of 1.06 per cent. for ten years, as compared with 1.87 per cent. from 1870 to 1879. The population of Athens in 1889 was 114,355.

Finance.—The total revenue is estimated in the budget for 1890 at 93,967,720 drachmai, of which 20,167,230 are derived from direct taxation, 28,765,916 from indirect taxes, 15,986,000 from stamps, fines, dues, military exemption payments, and posts and telegraphs, 8,093,000 from monopolies, and 20,055,574 from other sources. The total expenditure is estimated at 91,081,985 drachmai, 29,587,219 representing interest on the debt, 4,880,144 pensions and grants, 1,325,000 the civil list, 401,658 the expenses of the Chamber, 2,263,154 expenditure of the Ministry of Foreign Affairs, 5,133,878 that of the Ministry of Justice, 4,721,930 drachmai that of the Ministry of the Interior, 3,222,990 that of the Ministry of Worship and Instruction, 18,437,000 the military expenditure, 4,830,824 the naval budget, 1,464,318 the expenses of the Ministry of Finance, 8,413,370 the cost of administering the finances, and 6,400,500 miscellaneous expenditures. The total indebtedness of the Government in the middle of 1889 was 623,883,288 drachmai. The Opposition made a strong fight against the acceptance of the budget, denouncing the surplus as illusory, and this charge Tricoupis could not rebut; but he contrasted his re-constructional financial policy with the recklessness of his predecessor and rival. The building of railroads he defended as a means of increasing the production and foreign commerce of the country that will enable it to support the bur-

den of the debt, which with the new loans that are in contemplation will amount to 35,000,000 drachmai a year. The development of grain production in Thessaly has thus far disappointed the expectations that were formed at the time of the annexation, owing to bad seasons and the emigration of Mohammedans. The cultivation of currants has expanded, but the improved wine culture of France and the threatened increase of the French duties had a depressing effect on the trade. The trade in wines prepared in Greece has not made as much progress as was hoped for. The Piræus and Larissa Railroad was expected to conduce to prosperity by bringing more visitors and much foreign money into the country.

The Chamber was closed on March 6, after the contest over the budget was over, nothing else having been accomplished during the session. Two days later an extraordinary session was convened, giving the Deputies a right of drawing a double salary of 2,000 drachmai each. On April 8 a charter was granted for the completion of the Isthmus of Corinth Canal, which had been abandoned by its French promoters in consequence of the collapse of the Panama Canal Company, in which the same people were interested, was granted to a Greek company, which was authorized to issue 5,000,000 drachmai of stock and raise a loan of 15,000,000 drachmai. More than three quarters of the work was already completed. The cost of the canal, which was begun in May, 1882, is estimated at 25,000,000 drachmai, the length of the cutting being 4 miles. The Opposition took a stand against the abolition of the *octrois* on the lines on which the reform was effected in Belgium, for the reason that the measure was strongly desired by the communes, many of which are on the brink of bankruptcy, and would redound to the credit of the Prime Minister.

The Army and Navy.—The strength of the standing army was fixed by the law of 1887 at 24,076 men of all ranks, comprising 16,136 infantry, 4,877 cavalry, and 3,063 artillery and engineers. The budget for 1889 provided for an army of 4,956 officers, 5,853 non-commissioned officers, and 18,304 rank and file; total, 26,118. A scandalous breach of discipline due to political intrigues occurred in February, 1890, when Gen. Valtinos and other officers of the garrison at Larissa, refused to carry out the dispositions of the Minister of War, appealing against them to the King.

The navy in the beginning of 1890 consisted of 2 small ironclads armed with 10-ton Krupp guns, 1 wooden vessel, 30 torpedo boats, 2 unprotected corvettes, 2 cruisers, and 16 gunboats. A steel battle ship of 6,000 tons, the "Hydra," launched in 1889, was not completed, and another, the "Psara," of 4,850 tons, was launched in France in January, 1890. A third vessel of the same type, the "Spezzia," has been built in the same establishment. They can steam at the rate of 17 knots an hour, are plated with compound armor, 12 inches thick, and carry guns of large caliber. The navy is manned by conscription and by enlistment. In 1887 the period of naval service was lengthened to two years. The total number of officers and men in 1890 was 3,361.

Commerce and Production.—The mainstay of Greek commerce is the small Corinthian raisin, called, by a corruption of language, the currant in English, which thrives in the southern shores of the Gulf of Corinth, a part of the western shores of the Peloponnesus, and the islands of Zante and Cephalonia, but degenerates when transplanted to other parts of Greece, and has failed also in Asia Minor and California. The area suitable for this grape is now almost covered with vineyards. The crop, which in 1859 amounted to only 33,950 tons, varied from 42,800 to 65,794 tons between 1860 and 1870, rose steadily to 100,700 tons in 1878 and 133,036 in 1884, and has since fallen to 127,300 in 1887. The demand of Germany and the north of Europe has grown to about 18,000 tons a year, and that of the United States to 15,000 tons. In England, which was formerly the sole market, these currants constitute an important article of diet, being largely consumed by the coal miners especially, who mix them in a nutritious kind of coarse cake, and this use, since they contain a small proportion of alcohol, they are believed to act as a deterrent to the abuse of intoxicants in the north of England. In France, during the ravages of the phylloxera, it was discovered that a palatable kind of wine could be fabricated from dried currants, and in consequence a large demand sprung up which greatly stimulated production. The restoration of the French vineyards and the attitude of the Protectionists, who demanded that an excise duty should be placed on wines made from raisins of all kinds, suddenly closed this market. The Greek minister in London was sent on a special mission to Washington in 1888, and through his efforts the duty of 1 cent a pound, equal to 28 per cent. *ad valorem*, was taken off, and in the various tariff bills currants have figured on the free list, without any corresponding concession having been promised by Greece. In Great Britain the Greek Government strove to obtain the remission of the import duty on currants, which had been reduced in 1859 from 15s. 9d. to 7s. per 100 lbs., which was still nearly 50 per cent. *ad valorem*, and which weighed with exceptional severity on the poorer classes, since dearer kinds of dried fruit paid the same specific duty, and raw and preserved fruits consumed by the rich were admitted duty free. The British import of currants was 54,000 tons in 1888-'89 and 50,000 tons in 1889-'90. In 1890 Mr. Goschen was in a position to forego the £350,000 of revenue derived from this article; yet the British Government would not agree to take off the duty unless Greece made equivalent alterations in her tariff for the benefit of British manufactures. A convention was concluded which is open to the question, not yet decided in international law, whether other countries entitled to most-favored-nation treatment can claim entry for their products at the reduced rates accorded to British goods in return for a specific concession. The lowering of the duty in 1859 sent up the amount of the consumption in the United Kingdom from 24,110 tons in that year to 32,081 in the year immediately following and 40,103 in 1865. The new reduction to 2s., which is almost tantamount to the entire repeal of the duty, is expected to give a still greater stimulus to the

British importation of currants. To obtain from France the same duty as is levied on Turkish raisins the Greek Government offered to reduce the tariff rates on fine silks and French wines. In Belgium the decline in the price of currants has brought the duty up to 50 per cent. *ad valorem*. The Greek Cabinet opened negotiations with the Belgian Government to secure a convention like that concluded with England in April, offering in exchange for a reduction to 10 or 15 per cent. to grant advantages to Belgian producers of iron manufactures, steel rails, paper, and cotton goods.

Railroads.—There were 364 miles of railroads open for traffic in 1889, while 237 miles were building and 433 miles more were projected. The Government, in May, 1890, raised a loan of 50,000,000 drachmai, bearing 5 per cent. interest, which was taken by British and German capitalists at 80 per cent. This was only half the amount that was authorized, but subscribers could not be found for the remainder. The cost of the International Larissa Railroad, for which this money has been raised, is estimated at 55,000,000 drachmai. The Peloponnesus system is being constructed 120 miles from Pyrgo to Navarino, and from Megalopolis to Sparta, having been ordered in April, 1890, to complete the Myli Kalamatta lines.

Political Crisis.—The extraordinary session of the Chamber was closed on June 13, the obstructive tactics of the Opposition having prevented the Government from carrying any measure of importance. The new taxes for restoring the financial equilibrium and strengthening the army and navy were a source of weakness to the Government that imposed them. The apparent failure of the conciliatory policy toward Turkey and the neutral attitude that she adopted in the Cretan question turned the scale against Tricoupis. There were about 1,500 Cretan refugees at Athens in the spring of 1890, for whose support the Government contributed 2,000,000 drachmai. A large proportion of them returned after the state of siege was raised on the island. The Porte proceeded, without regard to Greek susceptibilities, to settle the Cretan question by depriving the Christians of a large part of the powers of self-government that had formerly been granted, at the risk of precipitating a fresh insurrection. By suppressing the official use of the Greek language in Epirus and other anti-Hellenic measures it aggravated the situation, and finally came the conflict with the Greek patriarchate over the investiture of Bulgarian bishops to complicate matters. During the electoral campaign Tricoupis gave a freer rein to the Cretan and Panhellenic agitation, provoking the Porte to repressive measures, supported the Ecumenical Patriarch in his quarrel with the Ottoman Government, and made Panhellenic speeches without being able to turn the tide. He was accused of having first encouraged the Cretan insurgents, and then abandoning them to their fate. With more justice he was blamed for advising the islanders not to oppose the introduction of a Turkish force, which had them at its mercy when the strategical positions were occupied. The firman of November, 1889, followed, extinguishing the privileges assured in the organic statute, and confirmed by the Berlin

Treaty and the Halepa pact, while Great Britain withheld the promised intercession. (See Turkey.) Official pressure was used as unscrupulously as by any of his predecessors; and yet in the general election in October the opponents of Tricoupis triumphed beyond their own expectations. A new Young Greek party, founded in the summer by Ralli, to efface the differences between the two old parties whose contests have been largely actuated by greed for office, and to turn the energies of the nation to the realization of Hellenic aspirations, won a large number of seats. Of 41 followers of Tricoupis who claimed seats in the new Chamber when it came together, 23 were refused admission on the ground of illegalities, and new elections were ordered. The remaining 109 Deputies were supporters of Delyannis and of Ralli. The heroic financial methods of Tricoupis were turned against him in the canvass, and the farming population were taught to question whether the still dubious credit, purchased by trebling the taxes and doubling the debt, was better than repudiation. The Opposition promised to ease the burdens of the peasantry by repealing the tax on plowing animals, and reducing that on sheep and cattle, and to place a protective duty on animals imported from abroad. The army, in spite of the efforts of Tricoupis to make it effective, was so deficient in discipline and training, as it possessed no reliable corps of under officers, as to be pronounced worthless by military critics. Tricoupis, who began with a policy of peace and recuperation, was suspected latterly of having fallen under Russian influence, and to have entered into a Greco-Servo-Montenegrin league that would soon embroil Greece and Turkey, and set Macedonia afire. He boasted that the three new ironclads could sweep the Aegean, and was credited with a plan by which it was proposed to cut off communications between Constantinople and Crete, and seize and hold Smyrna to be ransomed by a cession of Turkish territory.

Change of Government.—On Oct. 28 Tricoupis handed in his resignation, and the King charged Delyannis with the formation of a new ministry. He found the task so difficult that the Cabinet was not constituted till Nov. 5. It was made up as follows: President of the Council, Minister of the Interior, and *ad interim* Minister of War, Delyannis; Minister of Foreign Affairs, Deligeorgis; Minister of Finance, Karapanos; Minister of Justice, Zaimis; Minister of Marine, Koumoundouros; Minister of Education and Ecclesiastical Affairs, Gerokostopolos. None of the ministers, except Delyannis, had held office before. He entered office as Minister of Foreign Affairs in 1863, was a member, with Tricoupis, of the coalition Cabinet known as the Ecumenical Ministry, served later under Koumoundouros, who was the father of the new Minister of War, represented Greece at the Berlin Congress, became Prime Minister in 1885, and ceded his place to Tricoupis, in 1886, in consequence of the joint naval demonstration of the European powers which prevented him from carrying out his aggressive designs in Turkey, to obtain in Epirus compensation for the aggrandizement of Bulgaria, after he had spent the enormous sum of 100,000,000 drachmai in military preparations.

GUATEMALA, a republic of Central America. The Constitution is that of December, 1879, with modifications proclaimed in October, 1889. Gen. Manuel Lisandro Barillas was elected President, in 1886, for six years.

Area and Population.—The area of Guatemala is estimated at 46,800 square miles, and the population was computed to be 1,427,116 at the beginning of 1889. About three fifths of the people are of pure Indian blood. Guatemala la Nueva, the capital, contained 65,796 inhabitants in 1889, of whom about one tenth were of European origin. Education is gratuitous, obligatory, and secular. The state, in 1888, expended \$525,625 on the schools. There were 1,242 teachers and 49,247 pupils in the primary schools in 1887, and in the seven high schools there were 1,185 pupils.

Commerce.—The trade of Guatemala in 1889 was very satisfactory. The imports amounted to \$7,075,000, and the exports to \$9,960,000. The crop of coffee was large, and prices ruled high. The export was valued at \$9,550,000. The other exports, consisting of hides, sugars, indigo, rubber, and bananas, are of trifling value. The imports from Great Britain amounted to \$1,595,000, the United States coming next with \$1,330,000 of imports. Coffee planting increased tenfold in four years, and the lands advanced to two or three times their former price.

Finance.—The foreign consolidated debt amounted, at the end of 1888, to \$4,610,000, and the internal debt, which, like the other, is mainly held in England, to \$4,880,000. A new loan of \$21,000,000 had been negotiated in France, when the political disturbances broke out to interrupt the transaction.

War against Salvador.—The idea of a union of the five Central American republics, which has been entertained by the most progressive statesmen, and has played an important part in the politics of those countries ever since the disruption of the old Confederation in 1847, received a serious check in 1885, when Barrios lost his life in the attempt to accomplish it by force. Since the Pan-American Congress in Washington the movement has been revived. It had among its supporters the Presidents of Guatemala, Salvador, and Honduras. In October, 1889, a Congress was held in San Salvador to devise a plan for carrying out the idea of union, and the question was adjourned to a Central American Union Congress, to be held in the capital of Honduras, on Aug. 20, 1890. Among the people of the republics it is not very popular, as they fear that it will lead to a loss of their liberties, and that under a single strong Government they will be more at the mercy of dictators and corrupt politicians than at present. This feeling is strong in Salvador, whose inhabitants dread the domination of the more backward and lethargic people of the sister republics. It has been shared by Costa Rica and Nicaragua, all three fearing the preponderance of the other two, and more especially of Guatemala. In Salvador, a conflict in June, 1890, between the Unionists and the party of independence was attended with the death of President Menendez and anarchic conditions, out of which Gen. Carlos Ezeta emerged as Provisional President (see SALVADOR). President Barillas issued a proclamation calling upon Gen. Ezeta to lay down the

dictatorship that he had usurped, and ordered the mobilization of the Guatemalan forces. On July 17, before there was any declaration of war, the steamer "Colima" of the Pacific Mail line, was stopped at the port of San José de Guatemala, and arms and ammunition that had been shipped from San Francisco to Salvador were seized as contraband by the Guatemalan Government, on the ground that carrying munitions was a violation of the contract between the Government and the American steamship company. Gen. Gregorio Solares was appointed commander-in-chief of the forces on the frontier. The Salvadorian troops were concentrated on the Rio Paz, which forms the boundary, almost as quickly as the Guatemalan army of Gen. Fuentes, which encamped near Chalchuapa. An aide-de-camp was sent to the Salvadorian commander, Gen. Ezeta, brother of the President, with an *ultimatum* demanding his consent to the ratification of the proposed union of the five republics, and a meeting of representatives of those states, at Tegucigalpa, on Aug. 20. Gen. Ezeta replied that Salvador was a sovereign state and knew how to act without foreign intervention. Gen. Barillas then ordered a part of his troops to cross the frontier without a formal declaration of war, to assist the rebels against Ezeta. Owing to the internecine struggle in Salvador, effective resistance was not anticipated. It was even hoped that a military demonstration on the frontier would be sufficient to enable Ezeta's enemies to overthrow him. The aid of Honduras was counted upon, and declarations of adhesion to the union were issued by persons pretending to represent Costa Rica and Nicaragua. The men who held the power in the latter countries sympathized rather with Ezeta's party, and were determined, if possible, to remain neutral. Ezeta developed unexpected strength, and was able to mass on the border a considerable body of the most soldierly and best-disciplined troops in Central America, while Barillas, whose despotic rule and reputed dishonesty have made him many enemies in Guatemala, was afraid to deploy his best troops against Ezeta, being equally threatened with risings in the rear. On July 17 Gen. Villavicencio, commanding a force composed of Salvadorian rebels, his countrymen, and Guatemalan troops, who were sent across the border to his aid, was beaten. Gen. Fuentes then crossed the river and intrenched himself on Salvadorian territory. On July 18 the Guatemalan troops, estimated at 9,000, were driven from their position with heavy loss, leaving a part of their artillery and ammunition. President Bogran, of Honduras, proclaimed an alliance with Guatemala, and permitted Gen. Rivas, a Salvadorian officer, who had been summoned to fight against Guatemala, to raise 2,000 mercenaries for the invasion of Salvador. About the same time Gen. Barrundia, a Guatemalan exile, entered the northern district of Guatemala from Mexico for the purpose of raising the standard of revolt against Barillas. On July 20 persons claiming to represent the wishes of the people of all the republics issued a manifesto from the capital of Guatemala, calling upon Gen. Ezeta to relinquish the presidency of Salvador and restore the legal order. The Salvador insurgents and their Guatemalan allies were de-

feated in a third sanguinary engagement, and driven from their intrenched position, abandoning their guns. Gen. Ezeta's army followed them into Guatemalan territory, and Gen. Barillas, who claimed to have committed no act of hostility hitherto, on July 23 formally declared war in a proclamation, stating that he had located troops on the frontier for the purpose of preserving peace and order, which were threatened by the disturbed condition of Salvador, and that the forces of Salvador had invaded the national territory, notwithstanding his protestations of peace and efforts to maintain it, and in different ways had unjustly provoked the people of Guatemala. Severe engagements were fought at Atescatempa, Cotepeque, and Chingo, in which the Guatemalans sustained the heaviest losses. They became demoralized, being dissatisfied with the new officers who were placed over them, and at Coco they were routed, leaving their artillery on the field. The losses on both sides already amounted to more than 1,000 men. One Salvadorian column, under Gen. Martinez, defeated Gen. Solares and advanced on Jutiapa, while Gen. Antonio Ezeta invaded the Department of Chiquimula, driving back the force of Gen. Teller, after having returned to San Salvador and defeated Gen. Rivas, who had seized the artillery barracks. Gen. Bogran, the President of Honduras, was suspected of a plan to invade Salvador in support of the movement of Rivas; but when that was crushed and the Guatemalan dictator was seen to be unable to concentrate a force sufficient to withstand the victorious advance of the Salvador columns, he followed the example of the rulers of Nicaragua and Costa Rica, and on Aug. 4, on receiving an assurance that Gen. Ezeta would convene a Constitutional Congress at the earliest possible date to elect a permanent President, issued a proclamation recognizing Ezeta as Provisional President of Salvador. The Costa Rican Congress voted to defer the final consideration of the union compact of the Central American states that was signed at San Salvador in October, 1889, until the month of September, 1891. President Bogran sent notes to the presidents of the other republics suggesting the advisability of postponing the consideration of the treaty of union till after the hostilities between Salvador and Guatemala were ended. President Sacasa, of Costa Rica, and President Rodriguez, of Nicaragua, approved the postponement, informing him that at the intended meeting of delegates in Tegucigalpa, on Aug. 20, the representatives of their Governments would be instructed against discussing a treaty of union.

On Aug. 1 Gen. Santiago Contreras, with 1,800 men, surprised the Guatemalan artillery corps, numbering about the same, which was commanded by Col. Barrera. Gen. Cayetano Sanchez having been recalled to fortify the capital. The attack was made in the night, and resulted in the rout of the artillerymen, who left 11 guns in the enemy's hands and 400 dead on the field. The Guatemalans being re-enforced by additional troops, Gen. Contreras intrenched himself at Santa Barbara, within 40 miles of the capital of Guatemala. A new revolution broke out in the eastern part of Guatemala, headed by Gen. Alfonso Irungaray, the son of a general who was banished by Baril-

las in 1888. Young Irungaray issued a *pronunciamiento* in the department of Chiquimula, was joined by more than 1,500 deserters from the Guatemalan army, seized the capital of the department, and compelled Barillas to concentrate his army on Guatemala city to prevent it from being captured by the rebels. The military generally were dissatisfied, their pay being in arrears, and in the capital the President did not dare to show himself, as the mob threatened his life. He had proclaimed martial law throughout the republic. On July 26 an attempt was made to assassinate Barillas. While the hostile armies lay encamped in sight of each other, the two dictators were occupied in suppressing civil dissensions in their own countries. The invasion of Gen. Villavicencio with Salvador refugees and Guatemalan volunteers had been effectively checked and by a prompt manœuvre San Salvador had been recaptured from Gen. Rivas, and the rebel leader and a great many people of all degrees of prominence who were suspected of treason to Ezeta had been shot without trial. The territory of Honduras, however, was still used as a base for hostile operations against the Ezeta Government, notwithstanding Bogran's assurances. Dr. Rafael Ayala, Vice-President under President Menendez and, according to the Constitution, the legitimate Provisional President of Salvador, set up a rival government at Senzuntepeque, near the Honduras frontier, under the protection of a considerable army led by Miranda, a distinguished and influential Salvadorian general. Gen. Bogran again prepared to give open military assistance to Barillas, sending a body of troops under Gen. Figueroa to support Gen. Miranda, while he marched with another to join the Guatemalan force that was sent against the insurgents in Chiquimula under the command of Gen. Pedro Barillas, a cousin of the President. The people of Guatemala, where food rose to famine prices, the coffee crop was to a great extent lost for lack of hands to pick it and the trees injured for years to come, and the patriotic impulse of resistance to foreign domination that gave Ezeta his popular strength played no part, were generally refractory and disaffected toward Barillas. Sedition was rife in the circles of the Government, and insurrections were threatened in the capital and in various other centers. Gen. José Reyna Barrios, son of the late dictator, was recalled from exile in San Francisco to head a general uprising. In the last engagements with the Salvadorians, whole battalions threw down their arms and ran. Gen Irungaray and his associates Estanislao Sandoval and Maximo Cerna, who had issued proclamations from Spala and Palo Grande, had been joined by disaffected Guatemalan soldiers till they disposed of a force of some 3,000. On Aug. 5 Gen. Pedro Barillas gave them battle and gained a decisive victory. Barrundia, who, in conjunction with Col. Brito and Col. Garfias, had raised a force of refugees on the Mexican border that was daily augmented by Guatemalans who fled to escape the vengeance of Barillas, was stopped by the Mexican authorities when on the point of invading Guatemala. Still the President's difficulties were not ended. The hostile party at the seat of government was almost strong enough to depose him, and it was

rumored that he contemplated fleeing by sea to enjoy in security his fortune, estimated at \$8,000,000, which he had invested in foreign countries, as many other wealthy Guatemalans have done. The Treasury was empty, and the troops were unpaid and ill supplied. The French bankers who had negotiated a loan declared the contract void, and refused to honor the drafts of the Government, which then attempted to appropriate the customs receipts pledged to the English bond holders, but desisted in response to a vigorous protest of the British minister.

The reverses of the insurgents in the open field and the cessation of hostilities on the part of the Salvadorians afforded time and opportunity to Barillas to regain his failing prestige and to disable his secret enemies by remorseless persecutions. On Aug. 6 he canceled the *exequaturs* of the foreign consuls that he thought were inimical to his rule, namely, those of Mexico, the Argentine Republic, Peru, Ecuador, Colombia, and Bolivia. The Governor of the Federal District, Gen. Rafael Romaña, was removed and sent to prison, where he is supposed to have been shot on suspicion of being engaged in a plot to overthrow the Government and restore the Conservative or Church party to power, with Gen. Julio García Granados, an exile in Nicaragua, as its leader. The culminating point of the contest was reached when Barillas ordered the arrest of Eurique Martínez Sobral, the Minister of Foreign affairs, who was hurried to prison and condemned by the President's decree to be summarily shot. The Spanish minister interceded with Barillas, who promised to spare Sobral's life. The accused man was returned to the penitentiary, and a false rumor gained currency and was generally believed that he was secretly shot. The other four ministers sent in their resignations, which Barillas refused to accept, ordering them to remain at their posts. This they refused to do, upon which he sent them letters of dismissal. A season of anarchy followed, during which the partisans of Barrios endeavored to gain the upper hand, but the power and energy of Barillas gave him the mastery.

Intermediation.—Lansing B. Mizner, the American minister accredited to the Central American republics on May 30, 1889, who resided in Guatemala, like all the diplomatic representatives of foreign countries in Central America, was unable to communicate with the State Department at Washington after the war broke out, trustworthy telegraph service by the land line running through Guatemala and Mexico being impossible. Alarmed for the safety of foreigners and their property, as well as for the consequences to the belligerent countries, he invited the diplomatic representatives in Guatemala to hold a conference at the United States Legation. The first conference, which was held on July 31, was followed by others. The ministers all agreed to lend their good offices to secure peace without being able to come to a cordial understanding in regard to concerted action, which was rendered more difficult by a rumor that Secretary Blaine had sent a dispatch discountenancing Mr. Mizner's invitation to European governments to co-operate with the United States in mediating a difficulty between American powers. The authorities at Washington or-

dered the "Thetis" and the "Ranger" to Central America to protect American citizens and to be at the disposal of the minister for the forwarding of intelligence and instructions. The ministers of Great Britain, France, Germany, and Spain acceded to the proposal to tender a concerted mediation, the newly appointed Mexican minister, Gen. Alatorre, having not yet arrived. At the instance of the diplomatic body, Gen. Ezeta ordered his troops not to attack the Guatemalan forces confronting them, being anxious, perhaps, to avoid giving the Guatemalan people, then torn by internal dissensions, cause for uniting to repel an invading army, which they could overwhelm with superior numbers if it penetrated too far into their country. Barillas, whose fortunes were at their lowest ebb, was anxious for peace, but urged the resignation of Ezeta as a condition. Each Government accused the other of being the aggressor, Gen Barillas, asserting that his forces were only once engaged with the invading army, all the other battles having been fought between warring factions of Salvador, while the Salvador authorities denied that they had sent troops across the border until the Guatemalans had made several ineffectual attempts to occupy positions on their territory. On Aug. 7, Minister Mizner embarked on one of the American war vessels for La Libertad, Salvador, where he could communicate by cable with his Government. His purpose was also to confer with Provisional President Ezeta on the subject of mediation and the terms of peace. The diplomatic representatives of Costa Rica and Nicaragua had proffered their services independently to arrange the basis of a settlement. President Ezeta, through unofficial channels, hinted his willingness to refer the matter to the joint arbitration of Mexico and the United States, thinking that if the American Government, owing to the residence of the minister to Guatemala, was biased in favor of his adversaries, Mexican antagonism to Guatemala could be relied on to counterbalance this influence. He insisted, as a prime condition of negotiations, that he should be officially recognized as Provisional President. This confronted the United States Government with an awkward difficulty, because there were two governments in Salvador, and of the two that of Dr. Ayala was the constitutional Government. On Aug. 11 President Ezeta formally announced an armistice pending the peace negotiations. After his conferences with President Ezeta Mr. Mizner returned to Guatemala on Aug. 16. By Aug 18 a protocol was completed by the intermediaries, chiefly through the efforts of Señor Arellano, the Spanish minister. The good offices and mediation of the diplomatic body were accepted by both parties, but the basis of peace proposed in the provisional treaty was rejected, as implying the abandonment of the independence of Salvador, by Ezeta, who advanced the right of Salvador to dictate terms of peace as being both the aggrieved and the victorious party, and in order to bring the enemy to his terms he threatened to order his troops to advance on the Guatemalan capital.

Barillas had strengthened his lines with drafted recruits, and now ordered all citizens between the ages of seventeen and fifty to present them-

selves for conscription on pain of being shot. About 25,000 soldiers were massed on the frontier. Gen. Bogran entered into an open league with Guatemala, sending forces to form a junction with the army of Barillas. Costa Rica and Nicaragua manifested an intention to join Salvador, and the eventual intervention of Mexico was apprehended if Guatemala threatened Salvador's independence. Simultaneously with the advance of an army from Honduras into Salvadorian territory, Gen. Barillas ordered an attack on Gen. Irungaray's revolutionaries, who defeated the Guatemalan army, and compelled it to retreat to the capital, while the Salvador soldiers under Gen. Moñua drove back the invaders from Honduras with heavy losses after a battle lasting five hours. The proclaimed general levy of all adults drove many to join the insurgents in Chiquimula or the Salvador troops across the border. A forced loan of \$600,000 from the city of Guatemala, and of \$400,000 from Quezaltenango was demanded, and by another decree the tax on real estate was doubled, the export duty on coffee raised from \$1 to \$2 per 100 pounds, a duty imposed on salt, and an additional duty placed on spirits, and internal-revenue taxes were levied on liquors, tobacco, soap, candles, and other articles.

The Treaty of Peace.—The preliminaries of peace, which were formulated by the diplomatic corps at the request of the ministers of Costa Rica and Nicaragua, after they had been signed by President Barillas, were submitted to President Ezeta, in Salvador, on Aug. 26, by Minister Mizner, the *doyen* of the diplomatic corps, who was accompanied by the Spanish minister and the ministers of Costa Rica and Nicaragua. The basis for the re-establishment of peace was as follows:

I. Both armies to withdraw from the frontier within forty-eight hours after the ratification of peace.

II. The armies of Guatemala, Honduras, and Salvador to be reduced to a peace footing within eight days.

III. The state of government existing in Salvador prior to June 22 to be renewed as soon as possible, the present President pledging himself to order an election within twenty-one days, and in case he is elected instead of one of the vice-presidents, he shall hold office only for the unexpired term ending March 1, 1891.

IV. Officers of the Government designated in the Constitution judges of the Supreme Court and the Inspector-General of the army in office before the revolution to be reinstated.

V. The Government of Salvador to be recognized by the states of Central America and *ad referendum* by other governments upon the election of a President and his installation.

VI. Full and unconditional amnesty to be granted in Guatemala, Honduras, and Salvador to all who have taken part in events having their origin in the war.

VII. The treaty of peace to be renewed within three months after the new President has taken possession of his office in order to eradicate bitter feeling and confirm the autonomy and independence of the republics, all claims for indemnity being renounced.

VIII. The treaty to be submitted to Honduras for her adhesion.

IX. The belligerent powers to notify their acceptance or rejection of the treaty within five days, and all communications from the respective Governments to be published in their official papers.

The articles were dated Aug. 27, and were signed by the ministers of the United States,

Costa Rica, Nicaragua, Spain, and Belgium, and *chefs d'affaires* of Germany and Great Britain. The conditions were not as repugnant to Ezeta as the original draft, which provided that he should resign the provisional presidency into the hands of Ayala pending the election of a new President for the unexpired term by a Constituent Assembly. Nevertheless he objected to the third and fourth articles as an interference with the internal arrangements of the country tending to impair its autonomy and dignity. Mr. Mizner, in the name of the diplomatic corps, replied with a declaration that those articles did not involve the least design to interfere in matters which of right belong exclusively to Salvador. Ezeta accepted this declaration as satisfactory and signed the treaty on Aug. 28. With the saving clause inserted by Ezeta, the treaty was ratified by Barillas on the following day; and the diplomatic representatives sent a note to the three governments calling on them to withdraw the belligerent forces.

The final treaty of peace was signed at the capital of Guatemala on Nov. 15. Its stipulations had in the main been complied with. The Salvadorian Congress, when it met, refused at first to ratify the third and fourth articles. A difficulty had also arisen in regard to the exchange of prisoners, the Guatemalans having, it was said, shot the prisoners taken in the war.

The Barrundia Episode.—José Martin Barrundia, who, as Minister of War under Barrios, was considered responsible for many of the barbarities committed during the former disturbances in Central America, left the country in 1885, and when the last war broke out he was living with his family in the Mexican State of Oaxaca. Going to Chiapas, he collected and armed a band at Tapachula, with the intention of entering Guatemala and raising a revolt against his old enemy, Barillas. While attempting to cross the boundary he was arrested and his followers were dispersed by Mexican troops, his design having been communicated to the Mexican Government by the Guatemalan minister, Dieguez. Barrundia was detained in prison a few days, then was liberated on condition that he should leave Mexican soil, and was conveyed under escort to the port of Acapulco, where he took passage for Salvador on the Pacific Mail steamer "Acapulco." Although the steamer touched at Guatemalan ports, he felt secure under the American flag, especially since the captain of a vessel of the same line had the month before refused to allow Salvadorian soldiers to come armed aboard his steamer or to arrest a political prisoner who had escaped from their custody. The Guatemalan Government, informed by a telegram from Minister Dieguez that Barrundia was on the "Acapulco," ordered his arrest at Champco, but Capt. Pitts would not permit the officers to board the ship. The Guatemalan Minister of Foreign Affairs, Dr. Francisco Anguiano, requested Minister Mizner to direct Pitts, when the steamer reached San José, to deliver up his passenger, who was charged with the crimes of sedition, treason, and conspiracy against the Government and the domestic peace of the country. Mr. Mizner

called on Dr. Anguiano and asked for fuller explanations, pointing out that Guatemala was then under military law, and received the assurance that Barrundia would have a fair trial and would not be put to death. When the "Acapulco" put in at San José on Aug. 27, and anchored near the "Thetis" and the "Ranger," Commander Reiter, of the "Ranger," came aboard, and was requested by Captain Pitts to protect his passengers from violence, detailing a file of marines for the purpose. The American naval officer expressed regret that he could do nothing without authority from the Guatemalan Secretary of the Navy, who was the port captain, the vessel being in Guatemalan territorial waters. Pitt telegraphed to Mr. Mizner from Champco. The American minister sent a reply telling him that his vessel was within the jurisdiction of the Guatemalan authorities, and that they had the right to arrest any one charged with having offended against the laws of the country. If he chose to resist the legally constituted authority of Guatemala he would have to do so at his own peril, and would render himself amenable to prosecution and punishment under Guatemalan law. The Guatemalan Minister of Foreign Affairs made a formal demand for the surrender of Barrundia, to which Minister Mizner replied that, if the "Acapulco" was in Guatemalan waters the Guatemalan authorities could exercise their legal jurisdiction, and if it should be found necessary to arrest Gen. Barrundia while on board an American vessel, the United States minister need raise no objection to the enforcement of the laws by duly authorized officers; but he would remind the Government of its promise to accord full justice and avoid extreme measures. Capt. Pitts had promised Gen. Barrundia that he would not be delivered up, and when Col. Torielle first came on board and demanded Barrundia, he refused, and sent a telegram to the minister, whose reply to his former message he had not received, and a request for assistance to the officers of the American men-of-war, who answered that the matter was out of their jurisdiction. Col. Torielle returned with an order for Barrundia's arrest, showing him Mr. Mizner's letter to the Guatemalan Government, and handing him the minister's reply of similar tenor to his own message. Capt. Pitts said he would obey under protest, and after first asking Barrundia to give up his arms he informed him that the Guatemalan officer had come to arrest him. Barrundia rushed out with two revolvers that he had concealed, and fired at Col. Torielle and the captain, who fled into a stateroom. Going out of the cabin, he was shot by the five soldiers who had come with Torielle, who all fired their rifles simultaneously.

Minister Mizner protested to the Guatemalan Government against the shooting of Barrundia in violation of its promise that Barrundia's life would be spared. On Sept. 1 a daughter of Barrundia entered the offices of the Legation and, pointing a revolver at Mr. Mizner, reproached him with having been the cause of her father's death, and pulled the trigger. The bullet missed him, and before she could fire a second shot Consul-General Hosmer seized her wrist.

H

HAWAII, a constitutional kingdom embracing the Hawaiian or Sandwich Islands in the Pacific Ocean, 2,100 miles southwest from San Francisco. Kalakaua I was elected to the throne by the people in 1874. On his death he is succeeded by his eldest sister, Kamaheha Liliuokalani, born Sept. 2, 1838, whose husband is John O. Dominis, of American origin.*

Under the new Constitution of July 6, 1887, the Upper House or House of Nobles is an elective chamber, all male citizens having a vote who are qualified by the possession of a certain amount of property and the standard of education that is the sole requisite for electors to the House of Representatives. Formerly the King nominated the members of the House of Nobles. Each house consists of 24 members. Representatives are elected for two years and members of the Upper House for six years, one third of the House being renewed biennially. They unite to form the Legislature, in which the ministers have seats and can vote on all matters not involving a question of confidence. The Legislature meets once every two years. A treaty made in 1889 gives the control of the foreign relations to the United States. The ministry at the beginning of 1890 was composed as follows: Minister of Foreign Affairs, Jonathan Austin; Minister of the Interior, Lorin A. Thurston; Attorney-General and Chief of Police, Clarence W. Ashford; Minister of Finance, S. M. Damon, successor to W. L. Green.

Area and Population.—The area of the islands is 6,677 square miles. The population in 1888 was estimated at 87,647. The immigrants in 1889 numbered 3,704 and the emigrants 1,391, a net immigration of 1,391, against 2,642 in 1888, 2,220 in 1887, 1,536 in 1886, 3,605 in 1885, and 2,713 in 1884. Most of the immigrants are Chinese and Japanese laborers. There were 189 schools in 1888, with 8,770 pupils, of whom 5,320 were Hawaiians and 1,227 were of mixed blood.

Commerce and Production.—The total value of the imports in 1889 was \$5,439,000, of which \$4,306,000 came from the United States, \$673,000 from Great Britain, \$201,000 from China and Japan, \$116,000 from Australia, \$91,000 from Germany, and \$50,000 from elsewhere. The total value of exports was \$13,874,000, of which \$13,841,000 went to the United States and \$33,000 to Australia. The sugar exported was valued at \$13,089,302. The only other article of any degree of importance was rice of the value of \$451,134. United States gold was imported to the amount of \$1,146,925, while the export was \$40,477. Since 1884 gold coins of the United States have been the only legal tender for more than \$10, and Hawaiian and American silver coins for smaller sums. Of \$34,000,000 invested in sugar plantations, about \$27,000,000 is American capital.

* King Kalakaua died of Bright's disease, at the age of fifty-four, in January, 1891. He was seized with illness at a hotel in San Francisco shortly after he had landed for the purpose of making a tour through the United States.

Communications.—The number of domestic letters that passed through the post-office in 1888 was 1,125,548; of foreign letters, 667,282. A telegraph line of 40 miles opened on the island of Maui in 1878 has since been extended over the whole surface of the island. There are lines also on the islands of Oahu and Hawaii and an extensive system of telephoning, and the islands are to be connected with cables. Honolulu, the capital, a place of 20,487 inhabitants in 1884, is provided with electric lights and street railroads. The length of steam railroads on the three principal islands is 56 miles. Steamers connect Honolulu with San Francisco and with the ports of China and Australia. In 1889 the number of vessels entered was 271; tonnage, 218,785. Of these 192, of 129,095 tons, were American; 20, of 19,138 tons, English; 6, of 4,197 tons, German; 12, of 11,542 tons, of other foreign nationalities; and 41, of 54,813 tons, Hawaiian. The number of vessels registered as Hawaiian in 1889 was 57, of 15,403 tons, of which 22 were steamers.

Finances.—The budget for the two years ending March 31, 1890, makes the total receipts \$2,862,505, including a cash balance in the treasury of \$209,655. The receipts from customs are estimated at \$1,048,100; internal revenue, \$796,500; taxes on commerce, \$186,450; sales, \$511,800; fines and costs, \$110,000. The total disbursements are reckoned at \$2,781,814, of which \$86,200 are for the civil list; \$25,300 for legislative expenses; \$173,582 for the administration of justice, \$161,350 for the diplomatic service, \$1,183,262 for the post-office, public works, roads and bridges, sanitation, and other expenses of the Department of the Interior; \$659,640 for financial administration; \$285,780 for police; and \$206,700 for public instruction. The public debt, which was consolidated by means of a loan issued in England in 1886, amounted on April 1, 1890, to \$1,934,000.

Political Crisis.—The Cabinet which was imposed upon the King by the revolution of 1887 has not been homogeneous from the first. Its prestige was impaired when the King vetoed the liquor and police bills and the bill abolishing the office of governor against the advice of a majority of the Cabinet, about six months after the adoption of the new Constitution, curtailing his prerogative, and his right of veto was sustained by the Supreme Court. At that time it was rumored that the Attorney-General planned to overthrow the throne by a military insurrection, and was only restrained by the presence of American and British men-of-war in the harbor. Mr. Ashford was accused of paying illegal fees to members of the Legislature, and complaints were made against Minister Thurston, who was another leader of the revolution. A vote of censure was passed upon the Attorney-General, and yet he retained his place. Later the course of Premier Green and his Cabinet on the Chinese question excited displeasure. After the Legislature met in 1890 recriminations passed between members of the Cabinet in con-

nection with a daring attempt to dethrone King Kalakaua that was made in the summer of 1889. The chief conspirators, Robert W. Wilcox and Robert Boyd, half-caste Hawaiians who were educated for the military profession in Italy, were never tried. Mr. Thurston accused Mr. Ashford of complicity, and the latter retorted that it was the other ministers who connived in the plot, as they took care to have no means at hand to frustrate the object of the revolutionists, which was to force Kalakaua to abdicate in favor of Princess Liliuokalani, and that it would have been successful if ammunition had not been procured from the United States war-ship "Adams." The head of the conspiracy, who had been elected a Representative, said that the movement originated with a society for the defense of native rights, whose motto was "Hawaii for the Hawaiians," and avowed that the abdication of the King had been demanded with the knowledge and encouragement of some of the ministers. The American or Reform party at the opening of the session had nominated a Representative for presiding officer, and were outvoted, some of the natives who had formerly acted with the Administration joining the Opposition and casting their ballots for J. S. Walker, a Noble, in order to preserve the custom of taking the President from the Upper House. The reaction against the democratic movement had its origin in a fear that its leaders were working to bring about annexation to the United States. The proposition before the American Congress to abolish Hawaii's preferential position, greatly to the prejudice of her commercial interests, by placing sugar on the free list caused annexation to be viewed in a less favorable light than ever. The idea of seeking a new market for Hawaiian sugar by means of reciprocity with Australia was put forward, as Hawaiian could be undersold in San Francisco by China and Manila sugar. In the Legislative Assembly the Committee on Foreign Affairs was instructed to inquire whether the negotiations for the renewal of the treaty with the United States had been calculated to prejudice or jeopardize the political or commercial independence of Hawaii. In the committee's report, presented on June 5, Mr. Austin, the Minister of Foreign Affairs, was charged with withholding and suppressing an important part of the correspondence with H. A. P. Carter, the Hawaiian minister at Washington, in reference to the treaty, and with refusing to transmit the minutes of the Cabinet meetings held in the summer of 1889. The report hinted that the negotiators conspired to hand over the country to the United States, and censured the clause relating to the landing of troops as an encroachment on Hawaiian independence. The report was rejected by 26 against 22. The dissensions in the Cabinet and the accusations brought against its members rendered its retirement inevitable. A few weeks later a vote of censure was proposed, to which an amendment was offered censuring Mr. Ashcroft, the member who was working with the Opposition against his colleagues, for certain advice that he had given to the King. The vote on the amendment resulted in a tie, and upon that the ministers resigned collectively. A new Cabinet was formed on July 4, composed as follows: Minister of

Foreign Affairs, John A. Cummins; Minister of Finance, Godfrey Brown; Minister of the Interior, Charles N. Spencer; Attorney-General, A. P. Peterson. The Legislative session was prolonged till Nov. 14, when it was closed with a speech from the King, in which he cautioned the ministers to be economical, pointing out that the authorized expenditure was in excess of the estimated revenue.

HAYTI, a republic in the West Indies occupying the western third of the island of Santo Domingo. By the provisions of the Constitution of Oct. 9, 1889, the House of Commons is composed of 50 members, elected for three years by the ballots of all male citizens over twenty-one years of age, and the Senate is composed of 39 members, part of whom are chosen by the House of Commons, and part nominated by the President, for the term of six years, one third retiring every two years. The President is elected by the two Houses united in a National Assembly, and holds office for four years.

Gen. Florvil G. Hippolyte was confirmed in the presidency after his final victory over Gen. Légitime by the Constituent Assembly on Oct. 17, 1889. The President has power to select the 11 ministers of state composing his Cabinet, who, in case of his death, form a council of government to administer public business until his successor is duly elected.

Area and Population.—The area of the republic is estimated at 10,200 square miles. The population is estimated by a native statistician at 960,000, while other authorities make it 572,000. Port-au-Prince, the capital, has from 40,000 to 60,000 inhabitants. French is the language of the people, and the Catholic religion is aided by the state and generally professed. Nine tenths of the inhabitants are pure negroes, and the other tenth are mulattoes, with the exception of a few whites.

Commerce.—The imports in 1887 were valued at 6,845,597 piasters, and the exports at 10,185,366 piasters. (The piaster or Haytian dollar has an exchange value of 83 cents.) In 1888 the value of the imports was 7,543,295 piasters; of the exports, 13,250,307 piasters. The civil war of 1888-'89 interfered with trade and production, causing the exports of the whole island to decline from \$15,000,000 in 1888 to 12,000,009, imports decreasing from \$8,000,000 to \$6,000,000. The chief commercial products are coffee, logwood, cacao, mahogany, and skins. The cultivation of cotton has greatly declined in Hayti. The imports are dry goods, which come mainly from Great Britain; flour and provisions, imported from the United States; rice, cheese, and candles from Germany and Holland; and articles of luxury from France. Of the total imports in 1887, 4,250,500 piasters were from the United States, 750,918 piasters from Germany, 710,790 piasters from France, and 675,535 piasters from Great Britain. The export of cotton in that year was 2,255,440 pounds; of coffee, 49,811,781 pounds.

Finances.—The finances of the Government, owing to successive intestine wars, are completely disorganized. The budget estimates are published, but not the final accounts. For 1886 the revenue was estimated at 6,412,957 piasters, with expenditure to balance. In 1887 the budget was

4,066,236 piasters. The country is flooded with depreciated paper money of unknown amount. A statement of the debt makes the amount outstanding of the foreign loan of 1875 4,657,803 piasters, and the internal debt 4,450,193 piasters. An advance of 1,000,000 piasters was obtained from bankers of Port-au-Prince in the spring of 1890, for the purpose of retiring paper currency.

The Political Situation.—After Hippolyte had conquered his rival and established his Government at the capital, he was officially recognized by the United States, Spain, Germany, Greece, and other powers, and more tardily by the British and French governments, which had established regular diplomatic relations with Legitimate during the conflict. A complaint was made of his treatment by the Haytian Government by the British consular representative at Port-au-Prince. In August a collision on the frontier was reported, growing out of a boundary dispute. In 1876 a commercial treaty was made with the Dominican republic, which, at the same time, defined the boundaries of the two countries. It contained a clause for the cession or, as the Dominican Government asserts, the lease of a tract of territory, in consideration of which Hayti agreed to pay \$150,000 a year. The treaty stipulated that all imports from Santo Domingo should enter Hayti free of duty. The annuity that Hayti agreed to pay was paid for a few years, and since then there have been no payments, the arrears amounting, with interest, to about \$2,000,000. In 1890 the Government of Hayti desired to terminate the commercial convention and establish custom houses on the frontier, alleging that the imports of rum were so great as to cause a large loss of revenue. The Santo Domingo Government made preparations to reoccupy the ceded or leased district. A force of Haytian soldiers was sent to hold it, and a fight with Dominican troops was reported from Santo Domingo to have occurred on Aug. 20, in which the Haytians were repelled.

HOLLAND. See NETHERLANDS.

HONDURAS, a republic in Central America. The Constitution, amended in 1880, vests the legislative authority in a Congress of 37 Deputies. The President is elected by popular suffrage for four years. Gen. Luis Bográn was made President when M. A. Soto was deposed and exiled in 1883 and was re-elected in September, 1887.

Area and Population.—The estimated area is 46,400 square miles. The population in 1889 was 431,917, consisting entirely of Indians except in Santa Rosa, near which are plantations of tobacco, and the coast towns on the Pacific. About 60 Americans reside in Tegucigalpa and 200 in the entire republic.

Commerce.—The exports to the United States for the financial year 1887-'88 amounted to 2,790,405 pesos or dollars; to other countries of Central America, 331,959 pesos; to Great Britain, 105,088 pesos; to France, 81,566 pesos; to Belgium, 30,345 pesos; to Germany, 6,004 pesos; to other countries, 5,297 pesos. The exports of bananas were 866,714 pesos in value; of coconuts, 110,231 pesos; of indigo, 73,645 pesos; of rubber, 33,928 pesos; of sarsaparilla, 36,282 pesos; of cedar wood, 32,482 pesos; of other products, including mahogany, cattle, hides, and

deer skins, 2,187,982 pesos. The departments of Yoro and Olancho have in recent years been opened up to rubber planting and sugar growing. Americans have been engaged in raising cattle and also in gold placer mining and in working the silver mines on the northern side of the Sierra with modern machinery. The capital of the mining companies has been subscribed mostly in England. Banana plantations have covered the lowlands near the coast, and on the sandy shores and keys cocoa-nut palms have been planted. Farther back is a zone where the orange tree thrives remarkably, and beyond that is the coffee country. The only hindrance to successful coffee growing is the scarcity of laborers and the danger of being left without any in the event of a war, when all who are capable of bearing arms are drafted into the army. When the crop is left to decay on the trees they do not bear for the three succeeding seasons.

Finances.—The main sources of revenue are customs duties and internal-revenue taxes on spirituous liquors and tobacco. The finances are in a state of disorder, owing to civil conflicts and wars with the neighboring republics. The revenue for 1885 was 994,780 pesos, and since then it has increased, but not more than expenditures. On the old English and French loans, amounting to £5,398,570, no interest has been paid since the wars with Guatemala and Salvador, which broke out in 1872. The arrears of interest on Jan. 1, 1890, reached £8,108,883. There was an internal debt on Aug. 1, 1888, of 2,031,379 pesos.

Civil Disturbances.—Honduras was committed to the project of a federal union of Central American states which was approved at a conference of the five republics in 1880, but was opposed by a powerful party in Salvador that overturned the Government (see SALVADOR) and carried on a successful war with Guatemala (see GUATEMALA). President Bográn assisted the defeated party in Salvador, and was only deterred by the failure of the counter-revolution attempted by Rivas and by the fear of revolution at home from declaring war against the Provisional Government of Salvador. Under threat of an invasion by the victorious Salvador troops he issued a proclamation from Tegucigalpa on Aug. 4, recognizing Gen. Carlos Ezeta as Provisional President, since the majority of the people of Salvador sustained him and there was no reason why they should not choose their ruler without interference from the sister republics, with the proviso that Ezeta should keep his pledge to call a constitutional congress to elect a President as early as possible. Civil disorders had broken out in Honduras as soon as Gen. Bográn made preparations for active co-operation with Rivas and Barillas. Guerilla bands gathered for the purpose of marching on Tegucigalpa and deposing Bográn and others for the purpose of raiding Salvador. The leaders were apprehended and the President caused to be hanged, not alone his enemies, but, as an evidence of his pacific intentions, those of Ezeta as well. He took the initiative in proposing the postponement of the Union Congress that was to be held in his capital on Aug. 20, 1890. When hostilities were about to be resumed, Honduras was made the base for another inroad into Salvador, which was checked by rapid tactics.

The reverses of the Unionists in Salvador created a precarious situation for President Bográn. For months his enemies perfected their plans, and on Nov. 7, while large detachments of the army were away on the frontier, where strong garrisons were posted for observation to guard against attacks from Salvador or Nicaragua, a part of the garrison of Tegucigalpa, led by the commandant, Gen. Longinos Sanchez, revolted, and, after severe fighting with the loyal troops, gained possession of the arsenal and of the Capitol building. For the next three days there was constant skirmishing in the streets. Simeon Martinez, Minister of Finance, and another member of the Cabinet fell into the hands of Sanchez, and were shot. The President and his other Cabinet ministers, with a body of faithful soldiery, defended themselves in the Camayagüela ward, and a considerable body in one of the barracks held out after all the others had been reduced. To capture this Sanchez reduced the guard that surrounded the President, and Gen. Bográn, who was an old and experienced soldier, seized the chance to cut his way through the lines, which he accomplished after a desperate and sanguinary combat. He set up his Government at Tamara, a neighboring town, whence he sent a dispatch to President Ezeta, asking him to remain neutral. The President of Salvador had already defined his attitude as one of strict neutrality in a proclamation upholding the principle that none of the republics had a right to interfere in the internal dissensions of the others, and conveying a warning to President Barillas of Guatemala. The latter was sending troops to the aid of Bográn, but recalled his army when Ezeta made preparations to intercept it and the Presidents of Costa Rica and Nicaragua intimated a readiness to take part in the conflict. It was the attitude of these states that had deterred Bográn from joining forces with Barillas against Ezeta in the summer, for they would have been hardly able to cope with a league of all three republics.

As soon as the rebellion was heard of, the armies of inspection on the frontiers and detached forces in all parts of the country set out by forced marches to succor the President, with the exception of those whose officers declared in *pronunciamientos* for the revolution, and they marched likewise for the scene of conflict. The refugees in Salvador and Nicaragua who were eager to fight against Bográn were kept in check by the measures taken by Presidents Ezeta and Sacara to prevent a violation of the frontier.

By Nov. 13 the President, having been re-enforced by some 2,000 troops, marched from Tamara upon the capital, driving in the scouts and advancing cautiously with an extended skirmishing line, yet suffering severely from ambushes. They halted for the night near the city, every approach to which was guarded by artillery. In the early morning Bográn charged three times on the three pieces and entrenched infantry that defended the high road, and at the third charge carried the position and drove the rebel troops back into the city, where the fighting was continued in the streets until they were cleared, one after another, and the barracks were recaptured, all except the San Francisco barracks, in which Sanchez and the remnant of his army were closely besieged. During the night Sanchez at-

tempted to escape. He was pursued and overtaken, but resisted capture, was wounded in the fight, ran into a house, and with a charge left in his revolver took his own life. In the morning the walls of the barracks were battered down with solid shot and shell from the guns that had been brought up in the night, and the soldiers of the Government charged through the breaches. The desperate men within fought to obtain vengeance for their doomed lives and to die with weapons in hand, until only a handful remained alive. The captured officers were led out to one of the large squares, blindfolded, placed in line, and shot in the presence of the citizens. There was general rejoicing over the victory of the Government. Nearly every family was in mourning. The city was badly wrecked by shells. Most of the captive revolutionists were tried by court-martial and shot.

HORSEMANSHIP. That inborn admiration for feats of mastery over the horse which was so freely given vent to in loud applause at exhibitions of the National Horse Show Association of America in the old Madison Square Garden became louder and stronger, and finally the people determined on becoming participants in this health-giving delightful recreation. The growth of equestrianism in the eastern part of our country in the past fifteen years has been marvelous. It is true that there were horsemen and horsewomen years ago; there is the evidence in Central Park, where are bridle paths that provide, in most instances, for two riders. But much less than fifteen years ago a horsewoman in Central Park was enough to collect a crowd, and a single mounted man drew more curious than admiring glances, no matter how fine his horse, how suitable his equipments, or how magnificent his skill in the saddle. Not only is all this completely changed and the bridle paths become altogether inadequate to the demands made upon them by the hundreds of clever horsemen and horsewomen whose skillful riding gives them health and pleasure and delights other visitors, on foot and in vehicles, but the last horse show in the new Madison Square Garden, early in November, 1890, was the scene of fine exhibitions by amateurs, and of some really wonderful feats in the saddle.

To begin with, in learning to ride one does not need to know anything about horses, much less to procure one—that is, if he lives in a large city, or near enough one to visit a good riding academy. It is perhaps well, even if the beginner is perfectly able to afford it, not to think of purchasing a saddle horse until he has had practice in equitation. One's views on the kind of horse that would be desirable for him change with almost every lesson until he has become a competent horseman. The horses favored in New York come principally from Kentucky and the near neighborhood, and from Canada and the northern portions of the United States. The horses from these regions comprise two distinct classes, as widely different as the sections in which they are bred. The Kentucky horses are largely thorough-bred and excel in the more delicate kind of equine beauty, nearly all of them being remarkably fine and graceful, superior, as a general thing, for ladies. Kentucky horses are apt to be sharp, supple, graceful, and speedy, but not as a

general thing up to heavy weights or the best suited for a changeable trying climate. The Canadian horses are larger than the Kentuckians, with less of the thorough blood in them, more hardihood and strength, but are less speedy than is generally shown by the blue-grass stock. As jumpers and weight carriers the Canadians excel, while for health and hardihood they are unapproachable. The difference in beauty is a matter of taste. The Kentuckians are undoubtedly superior, if fineness and delicacy are constituent parts of what might be called horse beauty. As a general rule, it may be set down that a saddle horse should be short backed, although there are some splendid specimens—notably Miss Ida M. Hough's high-school horse "Creed"—that have very long backs. Every horse has distinct gaits peculiar to himself, and an animal that one rider considers perfect is quickly condemned by some other rider who may perhaps be an equally good or a better horseman than the first. The only way to select a saddle horse is to try him well, and the assistance of a competent riding master is invaluable in picking out a satisfactory animal.

There are several distinct schools of horseback riding. The principal of these are: The German school, the adherents of which stick close to the saddle when riding a horse to the trot; the French school, which teaches the use of very long stirrups and the thigh grip; and the English school, short stirrups and a knee grip. The so-called military seat is a style of riding as distinct from the practice of equestrianism in the park and ring for health and pleasure as the race-track riding of professional jockeys or the steeple-chase practice of break-neck riders. The beginner will make the most rapid and satisfactory progress in learning riding if he begins under a teacher whose rule for stirrup-strap lengths is determined by the length of the rider's arm. A very good point about this long and short stirrup riding was recently made in an article by the Hon. Henry Cabot Lodge. He says that the followers of the long-stirrup-strap practice frequently shorten their straps when about to jump their horses—a confession that their practice in general is exaggerated, to say the least, because the best system is certainly that which is most practicable in all possible cases. For instance, if the man were riding a life-and-death race to get away from Indians, perhaps he would not wish to stop just before coming to a fence or a brook which his horse must jump, to shorten the stirrup straps.

The first step in a lesson in riding under the English or short-stirrup plan, is to mount your horse properly. Before you can do this, you must have him in hand. It seems to a practical rider ridiculous to get into the saddle from a block, with a groom—perhaps two of them—holding your horse's head. When your horse is brought to you saddled and bridled (there is a science, by the way, about this saddling and bridling, which it is wise to learn) the initial step is to take the animal on the left side of the head, with the left hand, by the snaffle rein. Moving to the nigh foreshoulder, you will let the left hand run along the left snaffle rein to perhaps three quarters of its length on that side of the horse. Then by turning the fingers in slightly you will be able to catch the curb rein

in about the same part of it as you have the snaffle rein, between the third and fourth fingers, keeping the snaffle rein on the outside of the little finger and running up through the palm of the hand, the thumb being down. Now, take both snaffle and curb at their longest limit in the right hand, still retaining the hold on them with the left, and, raising both hands nearly to the horse's neck, draw the lines out taut. This will enable you to get the other half of curb and snaffle readily between your fingers, the off side of the curb, running through between the second and third fingers, and the like side of the snaffle running between the first and second fingers. Again tauten and throw the loose double loop of curb and snaffle over the forefinger of the hand, placing the thumb on top of it. Now catch a lock of the horse's mane low on the neck with the right hand, and, while still holding the reins in the left, twist this lock of mane over the thumb of the left hand. Of course the coat should be buttoned up, and the whip, if the rider carries one, should be held, lash downward, in the left hand. Do not adjust the stirrup to the foot, but, standing there by your horse's left shoulder, your right hand hanging by your side, raise the left foot and work it into the stirrup. When you have a good foothold, spring from the right foot, aiding yourself slightly with your left hand on the horse's mane and your right hand on the back of the saddle, throw the right leg gently over the horse's back, and drop easily into the saddle. Then draw your whip from the left hand, gently so as not to frighten the horse, and sit erect; having inserted your right foot, the ball of it, in the right stirrup, and drawn your left foot so that only its ball is in the stirrup iron.

To go beyond this requires practice and personal teaching. A riding master must show you how to grip most strongly with the knees, and how to sit the trot, the canter, and the gallop. It is not wise to wear spurs until one has acquired full confidence and considerable proficiency. Nine tenths of the horseback accidents come through the improper use of spurs. Of course, the rowels are absolutely necessary to the finer guidance of the horse, but it requires a good deal of skill to wear the little steel heels and not prick the horse unnecessarily and unintentionally. Spurs are far from being the instruments of torture they are generally considered. A trained saddle horse rarely gives his rider an excuse for actually pricking him, obeying his master's wish at the touch of the calf of the leg, without waiting for the sharper admonition that he knows would quickly follow. The secrets of good horsemanship are balance, grip, and control. Intuition teaches a rider surely when a horse is about to shy or plunge, and grip and balance enable him to keep his seat on the most slippery saddle, independent of the stirrups.

One of the most difficult parts of horseback riding is to sit the rising trot well. The number of equestrians who are really skillful in this branch is very small. To see the rising trot well ridden is to behold the poetry of motion at its best. The features of riding a trot well are: To be perfectly well balanced, to take the motion from the impetus of the horse rather than from the stirrups, and to keep the knees and lower

legs from swinging loosely. There should be but one leg motion below the knees in rising to the trot, and that is an upward and downward ankle motion. The heels should be kept well down. The very best practice for becoming a good rider is to practice bareback, or with a stirrupless saddle, wearing spurs. When one can ride a horse without stirrups and with spurs—to walk, to trot, and to canter, and over moderate jumps—he may consider himself rather more than a fair rider. And if any one has an idea that horseback riding is not very much of an exercise, he should try it without the stirrups and with the spurs.

It is a mistake to suppose that to become a really good horseman a man has simply to take a docile animal, saddle him and bridle him, and practice riding at a gallop, up hill and down hill, in some lonely lane in Canada or in Mexico.

The way to learn to ride is to go to the best riding school and practice diligently under the best masters obtainable; and it is the only way to become a finished and thorough horseman unless one expects to be able to live and practice horsemanship for a hundred years. The riding schools of the present day are provided with corps of riding masters whose knowledge is practically the experience of centuries. Any man who has ever ridden in the schools knows that a riding ring is a large square, or oblong space with a tan-bark floor. To ride in this ring, one's horse must be almost constantly on the turn. There are two things about negotiating these turns which your horse will feel and you will feel if you do not do them properly every time. Most riding is done on the trot or the canter. There are two ways in which a horse can make a turn while on the canter; they are called when he is true and when he is false—the right way and the wrong way. When a horse canters or gallops it may be noticed by the most casual observer that he has one side of his movable anatomy of his progressive forces in what is called the "lead." He is either on the right lead or on the left lead, as the legs on the right side or on the left side take the longer or the quicker steps. If any horse, no matter how skillful and how docile he may be, attempts to canter or gallop about a turn when he is "false" he is liable to fall, possibly causing his rider severe, if not fatal injury; and, too, if the horse is false in going about a turn, it is much more difficult for him to recover from the effect of any slip, or the false step, or mistake, which the most sagacious or cautious animal is likely to make. How many years of uninstructed practice would make a beginner appreciate or understand this proved fact of experience—the true and the false in the horse's leading foot to canter or gallop. Then with the trot: A man who learned to ride by himself might ride all his life before he found out the difference it would make to his horse if he were capable of rising to the different diagonals of the trot. A skillful horseman when out with a horse for a long journey knows enough to change to the animal's gait every now and then, making a vast difference in the wear and tear and fatigue of both the steed and himself. There is a great difference in this trot, too, when frequent turns are made, as in the ring of a riding school. If a man is going

around a ring to the right, he should rise on what is called the right biped—that is, the horse should throw him up as the animal's left hind leg steps forward and the right foreleg comes to the ground. In trotting around a ring and turning to the left all the time, the rider should be thrown up by the horse's right hind leg at just the moment that the horse's left foreleg comes down. In cantering or galloping about the ring, the side to the turn—that is, left side for left turn, right side for right turn—should be taking the longer steps, or leading. Volumes might be written, not on the *finesse*, but on the ordinary common, every-day requirements of a horseman or horsewoman—the greatest is control. It is not enough to get your horse to go from one place to another. A stable boy, without saddle or bridle, can do that. The horseman or the horsewoman has the animal always and absolutely at disposal. In getting this control the science comes in. Any child knows that if you pull a horse's left rein he ought to go to the left, and *vice versa*; but the control of a trained saddle horse is something above and beyond such simple things as these.

In speaking of a trained saddle horse, we do not mean a high-school saddle horse. To the high-school saddle horse the rider's very thoughts seem to be known by some involuntary pressure. But an ordinary saddle horse is capable of being controlled to an almost unbelievable extent; and here, again, the folly of attempting to learn horsemanship without instruction is made clear. How many years might a man practice alone in the saddle before he found out that by holding a horse's head steadily and touching him with the left heel the animal can be made to step sideways to the right for a block or half a mile? And how much longer would it be necessary for such a rider to practice before he learned that a horse receives totally different impressions from being touched with the heel or spur in places less than six inches apart?

Horsemen divide the animal into three parts—the forehead or head and shoulders, the center piece or body, and the crup or hind part. It is wonderful what advantage has been taken of little bits of knowledge gleaned here and there by thousands of riders in hundreds of years, under thousands of different circumstances, and all turned to account in modern horsemanship.

The growth of horsemanship in New York city and vicinity can not be better illustrated than by the hundreds of men and women who may be seen on the bridle paths of Central Park and on the Riverside drive every day, except by the new and improved riding schools which have become popular institutions. Though least heard of, foremost among the riding establishments of New York city should be mentioned the Riding Club, which has its headquarters at Madison Avenue and Fifty-eighth Street. There are 500 ladies and gentlemen who claim membership in this body, and about 400 horses are stabled here all the time. Among the riding academies is that of the Cohn Brothers, the Central Park Riding Academy, at Seventh Avenue and Fifty-eighth and Fifty-ninth streets, one of the oldest and most popular schools in America, which has turned out more good riders than any other establishment in New York, and which is doing

a larger business than ever; Durland's Riding Academy at Eighth Avenue and Sixtieth Street, which has a large patronage; a very scientific school is that of R. Emile, called the Boulevard Riding Academy, at Sixtieth Street and Grand Boulevard, directly opposite Durland's. There are smaller establishments—Dean's, Anthony & Sons; and the Belmont—beside or above the upper entrances to Central Park. In all of these schools beginners are placed upon gentle horses and are taught reining, balance, grip, and control. It takes from half a dozen to twenty lessons for a beginner to become proficient enough to venture out into the park without the escort of a riding master, and men who have been riding from two to twenty years have said repeatedly that they do not know now half as much as they thought they did at the end of four lessons. Horsemanship requires nerve and skill, and it gives health and strength, with increase of gracefulness.

Although high jumping, which is always a most interesting and exciting game, was one of the competitions at the Horse Show Association's exhibition, and seven feet was cleared, or rather tumbled over, by the Canadian mare Maude, the horseback exhibitions that excited the most genuine and popular interest were the *Haut École*, or High School, and the mixed, utility, and fancy exhibitions given by the mounted park police in showing how runaways are caught and stopped.

The exhibition of high school was between the three highly trained horses, Dr. J. C. Beekman's black Trakene stallion Leparello, Gen. Eckert's bay gelding Partisan, and John H. Starin's roan gelding Clausen. There was no competition in the Garden—except possibly the one in which a prize was offered for the best four-in-hand driving by professional coachman—that aroused anything like the interest and caused the enthusiasm that greeted this contest of the most highly trained saddle horses that man has conceived. The decision in favor of the black stallion was not at all popular, although the judgment has since been approved by many expert horsemen. This high-school training of superior saddle horses, and the splendid control that necessarily accompanies an exhibition of this kind, will always draw applause. Think of a horse trained to stand erect on his hind legs when his rider raises his bridle hand and presses with the calves of his legs! A high-school horse will also kneel or lie down at command, and he is thoroughly in balance by the acquisition of the Spanish trot and the passage. Passage is really the Spanish trot, in which the horse makes no progress. These horses can also perform the canter in place—that is, they can go through all the motions of the canter or gallop without covering more than the ground they stood on in the first place. The beauty and precision of the trot and canter in place are brought out most fully when the horses execute these movements on a small board platform, just as the skill and precision of a clog dancer are best shown when he does his figures on a twelve or fourteen inch marble slab.

The mounted police drill and the competitions of the mounted police at catching a runaway horse with a man on his back and a runaway to a wagon, were not as cleverly shown at the National Horse Show's Exhibition as at that of the

New York Equestrian Exhibition Company, because, at the latter show the mounted guards were better horsed. One of the exhibitions at the Horse Show almost tended to bring the mounted patrol into contempt, because the officers, heavily and clumsily horsed, were asked to capture an alleged runaway on a polo pony. Such a thing as this was as unreasonable as to expect an ox to run down a deer.

The jumping of the National Horse Show's last exhibition was of a kind that will have a tendency to change the rules of this competition. It is probable that in the coming year's show the rules will be so amended that horses will not be given a record if they simply tumble over the high timber. They will be required to jump it cleanly, without knocking down any of the bars; or else a standard jump of six feet six inches, or six feet nine inches for the champion class, will be adopted, and horses will not be asked to go any higher. The jumping at the last horse show was offensive to people whose nerves were not of the very toughest. One "cropper" was sustained by a professional jumper, which brought the hearts of the sight-seers up into their mouths, and was enough to make any of them forswear future exhibitions of the kind. A young man named Reilly, in taking a six foot nine inch jump with Mr. Howland's horse Ontario, sustained a crushing fall that might easily have killed him there and then, and he must certainly be considered to have got off marvelously well that he was not at least maimed for life. Ontario is a strapping brown-bay gelding, and he takes off sidewise, instead of straight away, as the majority of horses do. When Ontario went at the six-foot-nine obstruction, when the accident occurred, his hind hoofs caught on the top bar as he was going over, and he was turned half-way over, so that he fell on his own neck and fore-shoulder, with his rider under him. Reilly was carried to the stables, where he recovered in such a surprisingly short time that he was allowed to make another effort with the horse, and, to the surprise and delight of the 10,000 spectators, he cleared the obstacle on the second trial handily. See "Ring-Riding, a Collection of Movements and Commands designed for the use of Riding Schools and Riding Clubs." By Henry W. Struss (New York, 1891).

HURLING, a national game in Ireland, now being played in the United States. The Gaelic Athletic Association of Ireland consists of 1,700 hurling clubs, each one of which must have at least 21 active players. Matches are played in every county between Feb. 1 and April 20. A tournament for all Ireland takes place between April 25 and May 25. The only clubs eligible are those that have won the championships of the several counties. There are more than 35,000 active members in the 1,700 clubs; but this number does not include many other thousands who are not expert enough to belong to the clubs. Hurling takes its name from the hurley, a wooden implement something like a hockey stick, but heavier and broader. The hurley may be of any kind of wood. The ball is of woollen thread and cork and has a leather covering. The regulation size is from 4½ to 5 inches in diameter, and the weight from 7 to 10 ounces. The hurling field is laid out something like a foot-

ball field. The regulation size is an oblong 196 yards on the longer sides and 140 yards on the shorter. Fields are laid as small as 140 yards by 84 yards, and fields larger than the regulation may be used. At each end of the field, near the middle of the shorter boundaries, 4 goal posts are placed 21 feet apart. A bar 10½ feet from the ground stretches from the 2 posts in the center. The object of the game is to send the ball across the goal line below the cross bar and between the middle posts. The regulation number of men on a side is 21, but as few as 14 can play. In taking position the men of one side arrange themselves at one end of the field in the form of a letter "O," with the letter "I" inserted between its curves. Two guards are stationed at the rear on either side and close to the long boundaries of the field. The opposition side is arranged in like manner at the other end of the field. When the play begins the hurlers stand in long lines through the middle of the field, and touch their opposing implements together as a salutation. The captains having tossed up for a choice of positions, the referee stands a little apart from the end of the lines and rolls the ball along the ground or tosses it higher than the heads of the players. Each side struggles to send the ball across the goal line that is opposite. The ball may be hit with the hurley, or struck with the hand, or kicked. It may not be carried, except upon the hurley itself. If a player catches the ball on the fly he may toss it up and bat it, without throwing, in any direction. The ball can not be taken from the ground by the hand. Any violation of this, or of any other of the rules, gives the referee a right to allow the other side a free "puck," as the batting of

the ball in mid-air is called; but if this is allowed, all the players on the side of the offender must keep 21 yards away until the ball has been struck. Should the ball go over the cross bar or over the goal line between the outside posts of the goal a point is scored; but the goal is scored only when the ball is sent under the cross bar and between the middle posts. The crossing of the goal line outside of the 4 posts counts for nothing. When a goal or a point has been scored the keeper of the goal has a free puck from his position at the post, and then the players on the opposite side must stand 21 yards away from him. If the ball passes over the side boundaries and does not rebound into the field the referee returns it to the field at the point where the line was crossed. He must throw it so as to touch the ground before it comes within reach of the players, and the players must be 10 yards away from the line when the ball is thrown. When half an hour has passed the referee calls time and the positions of the sides are reversed. The end of the second half-hour's play ends the game. In counting the result one goal outweighs any number of points, but if no goal has been made on either side the game is allowed to the side that has made the most points. The referee is allowed considerable discretion in interpreting the rules that prohibit players from catching, dropping, or pushing other players from behind, and allowing no player to bring his hurley intentionally in contact with the person of another player. If a player is disqualified, for breaking these rules, no other player can be substituted on his side. As played in Ireland, hurling is strictly an amateur game. There are no players for salaries or any other compensation.

I

IDAHO, a northwestern State, organized March 3, 1863; admitted to the Union July 3, 1890; area, 84,800 square miles; population, according to the census of 1890, 84,385; capital, Boise City.

Government.—The following were the officers of the Territory until July 3, and of the State thereafter until, in November, the officers elected under the State Constitution qualified: Governor, George L. Shoup, Republican; Secretary, Edward J. Curtis; Treasurer, Charles Himrod; Comptroller, James H. Wickersham; Attorney-General, Richard Z. Johnson; Superintendent of Public Instruction, Charles C. Stevenson; Chief Justice of the Supreme Court, James H. Beatty; Associate Justices, Willis Sweet and Charles H. Berry.

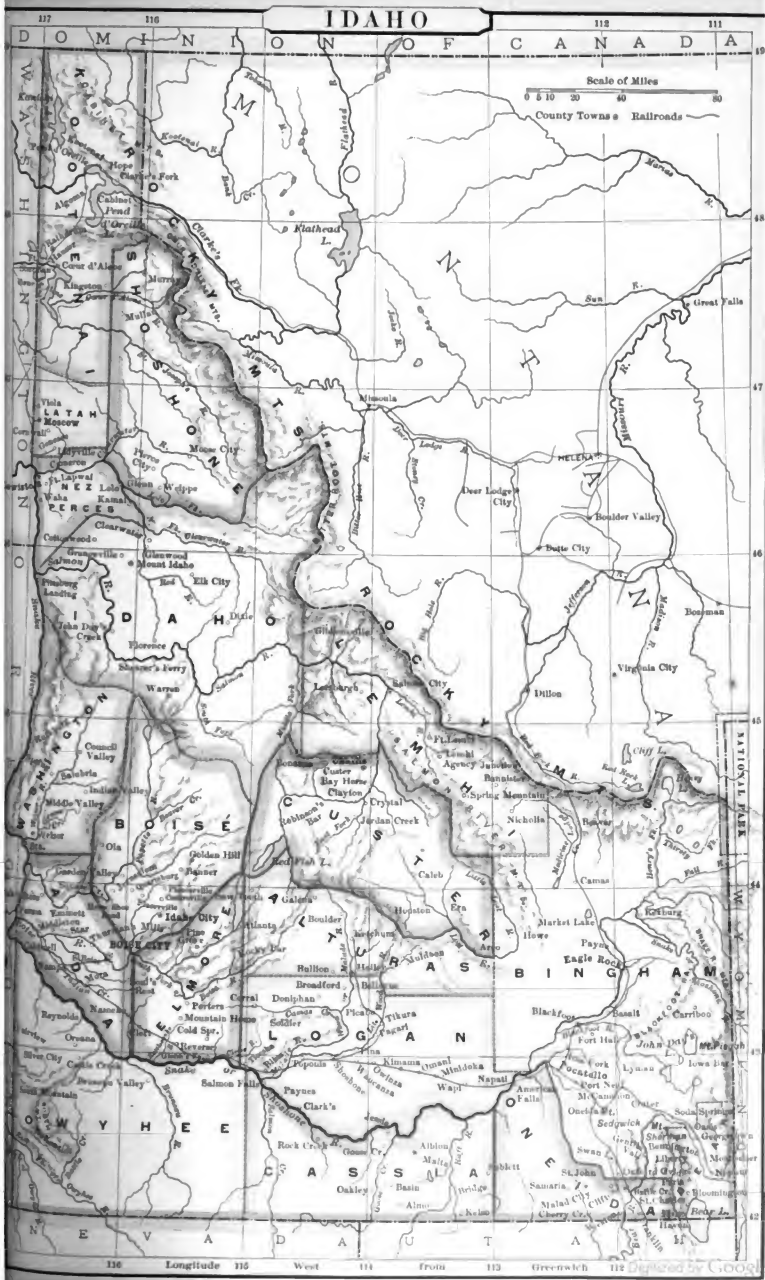
On Nov. 1, the following State officers were declared elected by the State Board of Canvassers, and soon thereafter assumed office: Governor, George L. Shoup, Republican; Lieutenant-Governor, Norman B. Willey; Secretary of State, A. J. Pinkham; Auditor, Silas W. Moody; Treasurer, Frank R. Coffin; Attorney-General, George H. Roberts; Superintendent of Public Instruction, J. E. Harroun; Justices of the Supreme Court, Isaac N. Sullivan, Joseph W. Huston, and John T. Morgan. Justice Sullivan drew by lot the shortest term and became thereby Chief Justice.

Population.—The following table shows the population of the State by counties as determined by the national census of 1890 compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Ada.....	4,674	8,868	3,694
Alturas.....	1,693	2,629	936
Bear Lake.....	3,295	6,057	2,929
Bingham.....	.....	13,575	13,575
Boise.....	3,214	3,242	129
Cassia.....	1,312	3,148	1,881
Cluster.....	.....	2,176	2,176
Elmore.....	.....	1,570	1,570
Idaho.....	2,081	2,952	924
Kootenai.....	513	4,108	3,599
Latah.....	.....	9,178	9,178
Lemhi.....	2,230	1,915	* 315
Logan.....	.....	4,169	4,169
Nez Percés.....	3,965	2,847	* 1,118
Owens.....	6,964	6,519	* 145
Owyhee.....	1,425	2,021	605
Shoshone.....	469	3,853	4,913
Washington.....	679	3,896	2,967
Total.....	32,610	84,855	51,775

* Decrease.

County Debts.—The total indebtedness of the Idaho counties in 1890 was \$1,320,795, of which \$858,700 was a bonded debt and \$462,095 a floating debt. The increase in the total debt in ten years is \$1,177,053.



Finances.—The following is a summary of the State debt on Oct. 1, 1890: Bonds of 1877 due Dec. 1, 1891, \$46,715.06; Capitol-building bonds of 1885, \$80,000; insane-asylum bonds of 1885, \$20,000; outstanding warrants unpaid, \$92,552.89; total debt, \$239,267.95. The large amount of outstanding warrants is due to appropriations of the last Legislature for improvements upon the Capitol grounds, the insane asylum, and the university lands, and to unusual expenditures caused by the destruction by fire of the insane asylum at Blackfoot on Nov. 24, 1889. In January, 1891, the county treasurers make their settlements with the State, and it is believed that enough money will then come into the treasury to meet these warrants. Before the end of December the wagon-road bonds, amounting to \$50,000, authorized by the last Legislature, were sold at a premium to be delivered as fast as money for the road should be needed. It is expected that the entire sum will be issued during 1891. The balances in the various funds of the State treasury on Oct. 1, 1890, were as follow: General fund, \$799.39; Capitol-building fund, \$20,774.95; library fund, \$198.89; university fund, \$78.32; common-school fund, \$758.60; insane fund, \$334.57; general school fund, \$10,919.40; total, \$33,864.12. The Governor estimates the necessary expenses of the first year of statehood at \$177,535, to meet which a tax levy for 1891 of 64 mills will be necessary, exclusive of the 4-mill levy for the State University and the 4-mill for the wagon road.

Education.—The public schools of the State are prosperous, and the system is reasonably satisfactory. The following table presents a comparison of school statistics for the two years ending Aug. 31, 1888, and Aug. 31, 1890:

ITEMS.	1888.	1890.
School districts.....	387	410
School houses.....	969	815
Schools.....	876	497
Children of school age.....	20,481	25,471
Amount rec'd for school purposes.....	\$153,512 69	\$202,285 47
Balance on hand Sept. 1, 1890.....		84,592 98

The University of Idaho was established at the town of Moscow, Latah County, by an act of the Fifteenth Legislature, and the sum of \$15,000 appropriated for the purchase of a site, and for procuring plans and specifications for a building. Under this act a site has been obtained and the ground made ready for the erection of buildings which will be begun as soon as a sufficient fund has accumulated from the proceeds of the half-mill university tax.

Penitentiary.—On Aug. 1 there were 75 State prisoners in the Penitentiary at Boise City and 6 United States prisoners. They have no employment. During 1889 an appropriation of \$25,000 was made by Congress for constructing an addition to the present building. The work was begun in March, and completed before the close of the year.

Militia.—The Idaho National Guard consists of 6 companies, aggregating about 350 men. Each company has been supplied with uniforms and other necessary equipments from the appropriations made to the State by Congress.

State Wagon Road.—The act of the Legislature of 1889, appropriating \$50,000 for the

construction of a wagon road from Mount Idaho to Little Salmon Meadows, and authorizing the issue of bonds to raise the money therefor, was ratified by Congress, and in June, 1890, the commissioners appointed under the act began their duties. Before the end of November nearly one third of the work had been completed, the expenditure being \$10,370.05. The entire issue of bonds, amounting to \$50,000, and bearing 6-per-cent. interest, has been sold at a premium, but only a part (\$11,000) has been delivered to the purchasers, the remainder being delivered as funds are required by the commissioners. This road, when completed, will, for a time, be the only means of communication within the State between the northern and southern counties.

Decision.—The United States Supreme Court, on March 18, in the cases of Clough *vs.* Curtis and Burkhart *vs.* Reed, rendered a decision respecting certain laws of the Fifteenth Territorial Legislature passed after the expiration of the sixty-day limit for the sessions of that body. It was sought to obtain writs of mandamus from the court directing the Territorial Secretary to strike from the laws of Idaho all acts passed after the sixty-day limit, on the ground that the Legislature had then no authority to act. The Idaho Supreme Court refused the writ, and that decision is affirmed. The court says that it is not one of the functions of the court to inquire into the records of a legislative body and to determine whether the body assuming to be a legislature is legal or not, the safety of our institutions depending largely on the departments of government being kept separate.

The Test Oath.—Early this year, in the case of Davis *vs.* Beason, the validity of the Territorial legislation designed to exclude Mormons from the suffrage, was brought before the United States Supreme Court for decision. The Territorial statute provides that no person shall be entitled to register or vote at any election who is "a member of any order, organization, or association which teaches, advises, counsels, or encourages its members, devotees, or any other person to commit the crime of bigamy or polygamy, or any other crime defined by law, as a duty arising or resulting from membership in such order, organization, or association, or which practice bigamy, polygamy, or plural or celestial marriage as a doctrinal rite of such organization." To enforce this provision it is further enacted that every person applying for registration shall take a stringent oath, known as the test oath, to the effect that he does not and will not practice bigamy or polygamy, and is not and will not be connected in any way with the Mormon organization, or aid it or teach its doctrines. It was claimed by the Mormons that these statutes violated the first amendment to the Constitution of the United States, which forbids the passage of any law "respecting an establishment of religion or prohibiting the free exercise thereof." The decision of the court, rendered on Feb. 3, denies this contention, and fully establishes the constitutionality of such legislation. It contains the following statements of the law:

Bigamy and polygamy are crimes by the laws of all civilized and Christian countries. They are crimes by the laws of the United States, and they are crimes

by the laws of Idaho. The term "religion" has reference to one's views of his relations to his Creator, and to the obligations they impose of reverence for his being and character, and of obedience to his will. It is often confounded with the cultus or form of worship of a particular sect, but is distinguishable from the latter. The first amendment to the Constitution, in declaring that Congress shall make no law respecting the establishment of religion, or forbidding the free exercise thereof, was intended to allow every one under the jurisdiction of the United States to entertain such notions respecting his relations to his Maker and the duties they impose as may be approved by his judgment and conscience, and to exhibit his sentiments in such form of worship as he may think proper, not injurious to the equal rights of others, and to prohibit legislation for the support of any religious tenets, or the modes of worship of any sect. The oppressive measures adopted, and the cruelties and punishments inflicted by the governments of Europe for many ages to compel parties to conform, in their religious beliefs and modes of worship, to the views of the most numerous sect, and the folly of attempting in that way to control the mental operation of persons and enforce an outward conformity to a prescribed standard led to the adoption of the amendment in question. It was never intended or supposed that the amendment could be invoked as a protection against legislation for the punishment of acts inimical to the peace, good order, and morals of society. However free the exercise of religion may be, it must be subordinate to the criminal laws of the country, passed with reference to actions regarded by general consent as properly the subjects of punitive legislation. Probably never before in the history of this country has it been seriously contended that the whole punitive power of the Government for acts, recognized by the general consent of the Christian world in modern times as proper matters for prohibitory legislation, must be suspended in order that the tenets of a religious sect encouraging crime may be carried out without hindrance.

It was further decided that the legislation in question was entirely within the powers granted by Congress to the Territorial legislature.

Admission to the Union.—The passage of the Idaho Admission bill through Congress was virtually assured by the decision of the United States Supreme Court, above considered, in favor of the validity of the test-oath requirement of the Idaho law. Until it was thereby made certain that the new State, if admitted, could lawfully control and exclude from power its Mormon population, no one cared to hasten its admission, and the bill slumbered in the House committee. After this decision it was reported to the House, and passed on April 3. It received the approval of the Senate on July 1, and was signed by the President on July 3. Under its provisions Idaho was declared to be admitted to the Union as a State, with the Constitution framed in July, 1889, and adopted by the people in November, 1889. The boundaries of the new State are defined as follow: Beginning at the intersection of the thirty-ninth meridian with the boundary line between the United States and the British possessions, then following said meridian south until it reaches the summit of the Bitter Root mountains; thence southeastward along the crest of the Bitter Root range and the continental divide until it intersects the meridian of thirty-four degrees of longitude; thence southward on this meridian to the forty-second parallel of latitude; thence west on this parallel of latitude to its intersection with a

meridian drawn through the mouth of the Owyhee river; thence north on this meridian to the mouth of the Owyhee river; thence down the mid-channel of the Snake river to the mouth of the Clearwater river; and north on the meridian which passes through the mouth of the Clearwater to the boundary line between the United States and the British possessions, and east on said boundary line to the place of beginning.

The State is assigned one Representative in Congress, and two Senators. It is provided that in the first election held for State officers the Territorial laws for registration, including the test-oath law, shall apply. The sixteenth and thirty-sixth sections of the public lands in each township, or sections in lieu thereof, are granted to the State for support of common schools, the proceeds from the sale of such lands to be preserved as a permanent school fund. This fund is entitled to receive also 5 per cent. of the net proceeds accruing to the United States from sale of public lands in the State. Fifty sections of the public lands are granted in aid of the erection of public buildings at the capital, and 90,000 acres are granted for the use of an agricultural college. University lands heretofore granted to the Territory are to become the property of the State. In lieu of the general grant of lands for internal improvement usually made to new States, the following special grants are made: For the establishment and maintenance of a scientific school, 100,000 acres; for State normal schools, 100,000 acres; for the support and maintenance of the insane asylum located at Blackfoot, 50,000 acres; for the support and maintenance of the State University, located at Moscow, 50,000; for the support and maintenance of the Penitentiary, located at Boise City, 50,000 acres; for other State, charitable, educational, penal and reformatory institutions, 150,000 acres. None of the lands granted shall be sold for less than \$10 an acre. A grant is also made of the Penitentiary at Boise City, Idaho, and all lands connected therewith and set apart therefor, and unexpended appropriations of money therefor, and the personal property of the United States now in the Territory of Idaho which has been in use in the administration of the Territorial government, including books, records and the property used at the constitutional convention at Boise City.

Election.—Pursuant to the provisions of the admission act and of the new Constitution, Territorial Governor Shoup issued his proclamation on July 18, directing a special election to be held on Oct. 1 to choose a full set of State and county officers and a Representative in the fifty-first and fifty-second Congresses. Nominating conventions were at once called by the Republican and Democratic State committees. The Republican State Convention met at Boise City on Aug. 20, and nominated the following ticket: For Governor, George L. Shoup; for Lieutenant-Governor, Norman B. Willey; for Secretary of State, A. J. Pinkham; for Auditor, George Robethan; for Treasurer, Frank R. Coffin; for Attorney-General, George H. Roberts; for Superintendent of Public Instruction, J. E. Harroun; for Justices of the Supreme Court, Joseph W. Hinton, John T. Morgan, and Isaac N. Sullivan; for Member of Congress (both terms) Willis Sweet.

The platform declares as follows on local questions:

That in the settlement of the Mormon question the Republican party has passed and enforced laws at once liberal, comprehensive, and just; and we pledge ourselves to rigid enforcement of the election laws and the enactment of such other laws as may be necessary for the suppression of Mormonism and the protection of the purity of the ballot.

That we pledge ourselves to the preservation of the land granted to the State by Congress for actual settlers and home makers.

That the act of Congress, Oct. 2, 1888, which places the public domain in the State of Idaho within the arid region and reserves the same from settlement, retards the growth of this State and works a great injustice to its people, and we demand of the Republican Congress the immediate repeal of said act.

That we favor a reduction in the hours of labor and the enactment of laws to secure full and perfect execution of the provisions of our Constitution touching the settlement of differences between capital and labor by arbitration.

That the Republicans of Idaho expressly declare that they favor the Australian system of voting, to secure the voters absolute freedom, secrecy, and security in the exercise of the election franchise, and pledge themselves to an adoption of that system.

That the Republicans of Idaho claim a share in the glory of the splendid victory achieved by the national party over the enemies of silver at home and abroad. The results of this victory have been so immediate and are already so great as to completely vindicate our demands and convert our adversaries. Silver has advanced 30 per cent. in value, and the increase in the value of our mines is so great as to be incalculable. Hand in hand with silver, the products of our farms and other industries are increasing in volume and value, and an era of prosperity and wealth is opening before us such as we never before experienced.

We appeal to the people of Idaho to join us in our efforts for the protection of the lead-producing industry by taxing imported lead in a just proportion. By the free importation of Mexican lead ores our miners would be brought into direct competition with a class of laborers who are little removed from a condition of slavery, and our lead would be depressed in value to a price which would afford no profit to the producers.

The Democratic State Convention met at Boise City on Aug. 26, and made the following nominations: For Governor, Benjamin Willson; for Lieutenant-Governor, Samuel F. Taylor; for Secretary of State, E. A. Sherwin; for Auditor, James H. Wickersham; for Treasurer, T. A. Regan; for Attorney-General, Richard Z. Johnson; for Superintendent of Public Instruction, Milton A. Kelly; for Justices of the Supreme Court, J. N. Maxwell, F. H. Ensign, and Hugh W. Weir; for Member of Congress (both terms), Alexander E. Mayhew. The following are the more significant portions of the platform:

We tender our gratitude to the Democrats in Congress for their almost unanimous votes in both houses for the free and unlimited coinage of silver, and congratulate the people of our new State that there is one great political organization in the country committed by its votes in Congress to a measure so essential to the prosperity of Idaho.

We favor an eight-hour system of labor.

We favor the enactment and stringent enforcement of laws stringently excluding Chinese labor from the State of Idaho. We oppose the employment of Chinamen by corporate companies, and demand such legislation as will prevent the employment of Chinese and foreign contract labor upon public works to the exclusion of American citizens. We favor the deportation of all Chinese and foreign contract labor.

We demand the enactment of laws punishing brib-

ery or intimidation of voters, and we favor the Australian system of voting.

We favor the election of United States Senators by a direct vote of the people.

We congratulate the people that the Mormon question has been eliminated from the future politics of the commonwealth by the adoption of the State Constitution. We pledge the Democratic party to the strict enforcement, both in spirit and letter, of the provisions of the test oath, as prescribed in our revised statutes of Idaho, to the strict enforcement of the registry law enacted by the Fifteenth Legislative Assembly, and to the strict enforcement of all the provisions of Article VI of the State Constitution.

On the Republican ticket the name of Silas W. Moody was substituted during the canvass for that of George Rebothan. The election on Oct. 1 resulted in the triumph of the Republicans. For Governor, Shoup received 10,262 votes and Willson 7,948; for Congressman (short term) Sweet received 10,150 votes, Mayhew 8,046; (long term) Sweet 10,130, Mayhew 8,026. The other candidates received majorities varying from 1,500 to 2,200. Members of the State Legislature were chosen as follows: Senate, Republicans 14, Democrats 4; House, Republicans 30, Democrats 6.

Legislative Session.—On Nov. 3, soon after assuming office, Gov. Shoup issued his proclamation convening the new Legislature for its first session at Boise City on Dec. 8. Its first duty was to elect United States Senators for the new State, and on Dec. 18 it chose Gov. Shoup for the term ending March 4, 1891, and William J. McConnell for the term ending March 4, 1893. At the same time it elected ex-Delegate Frederick T. Dubois to succeed Gov. Shoup at the end of his term. The work of legislation was then begun, and it was unfinished at the end of the year.

Valuations.—The assessed valuation of property for 1890 was as follows: Real estate and improvements, \$11,173,511; railroad property, \$5,358,338; live stock, \$4,744,276; goods, wares, and merchandise, \$1,612,615; money, bank shares and other securities, \$763,284; other personal property, \$1,929,281; total, \$25,581,305. The rate of State taxation for 1890 upon this valuation was 4 mills, $\frac{3}{4}$ mills being for general purposes and $\frac{1}{4}$ mill for the university.

Insane Asylum.—In November, 1889, at the time of the fire there were 67 patients, 47 males and 20 females, at the Blackfoot Asylum. Five male and 2 female patients escaped or perished at that time. During the remainder of the fiscal year ending June 30, 1890, 23 additional patients were admitted to the asylum and 19 discharged, leaving 64 patients at the latter date—45 males and 19 females. There is urgent need that the destroyed main building should be rebuilt, as the patients are now confined in a building fitted to accommodate not half of their number.

ILLINOIS, a Western State, admitted to the Union Dec. 3, 1818; area, 56,650 square miles. The population, according to each decennial census since admission, was 55,162 in 1820; 157,445 in 1830; 476,183 in 1840; 851,470 in 1850; 1,711,951 in 1860; 2,539,891 in 1870; 3,077,871 in 1880; 3,826,351 in 1890. Capital, Springfield.

Government.—The following were the State officers during the year: Governor, Joseph W. Fifer, Republican; Lieutenant-Governor, Lyman B. Ray; Secretary of State, Isaac N. Pear-

son; Auditor, Charles W. Pavey; Treasurer, Charles Becker; Attorney-General, George Hunt; Superintendent of Public Instruction, Richard Edwards; Railroad and Warehouse Commissioners, J. R. Wheeler, I. N. Phillips, W. L. Crim; Chief Justice of the Supreme Court, Simeon P. Shope; Associate Justices, Alfred M. Craig, Benjamin D. Magruder, David J. Baker, John Scholfield, J. W. Wilkin, and J. M. Bailey.

Population.—The following table shows the population of the State by counties, as determined by the national census of this year compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Adams.....	59,185	61,898	2,708
Alexander.....	14,808	16,568	1,758
Bond.....	14,566	14,550	* 816
Boone.....	11,508	12,208	698
Brown.....	18,041	11,951	* 1,090
Bureau.....	88,172	85,014	1,542
Calhoun.....	7,467	7,632	165
Carroll.....	18,976	18,920	1,844
Cass.....	14,498	15,968	1,470
Champaign.....	40,563	42,159	1,256
Christian.....	28,227	80,581	2,804
Clark.....	21,394	21,589	5
Clay.....	16,192	16,772	580
Clinton.....	18,714	17,411	* 1,808
Coles.....	27,042	80,098	8,651
Cook.....	607,534	1,191,922	584,898
Crawford.....	16,197	17,928	1,066
Cumberland.....	18,759	18,448	1,684
De Kalb.....	26,765	27,066	298
De Witt.....	17,010	17,011	1
Douglas.....	15,858	17,669	1,816
Du Page.....	19,161	22,251	3,890
Edgar.....	25,499	26,787	1,288
Edwards.....	8,597	9,444	847
Effingham.....	18,980	19,858	488
Payette.....	28,341	29,367	196
Ford.....	18,099	17,085	1,286
Franklin.....	16,129	17,198	1,069
Fulton.....	41,240	43,110	1,870
Gallatin.....	12,861	14,985	2,074
Greene.....	28,010	28,791	781
Grundy.....	16,782	21,024	4,292
Hamilton.....	16,712	17,800	1,088
Hancock.....	83,887	81,907	* 8,490
Hardin.....	6,024	7,284	1,210
Henry.....	10,722	9,576	* 446
Iroquois.....	86,597	88,888	* 8,259
Jackson.....	85,451	85,167	* 284
Jasper.....	29,505	27,809	5,804
Jersey.....	14,515	18,188	8,678
Jefferson.....	20,686	22,290	1,904
Jo Daviess.....	15,542	14,810	* 782
Johnson.....	27,528	25,101	* 2,427
Kane.....	18,078	15,018	1,985
Kankakee.....	44,869	65,061	20,122
Kendall.....	23,047	28,732	8,685
Knox.....	18,083	12,106	* 977
Lake.....	38,844	38,752	408
La Salle.....	21,296	24,285	2,989
Lawrence.....	70,403	80,798	10,895
Lee.....	18,668	14,698	1,080
Livingston.....	27,491	26,187	* 1,804
Logan.....	88,450	88,455	5
Macoupin.....	32,087	25,459	462
Madison.....	39,665	38,068	7,418
Marion.....	67,692	40,880	2,688
Marshall.....	50,196	51,585	1,409
Massac.....	28,646	24,341	635
McDonough.....	15,055	18,658	* 1,402
McHenry.....	16,242	16,667	* 175
McLean.....	10,448	11,313	870
Menard.....	27,970	27,467	* 508
Mercer.....	24,908	26,114	1,206
Monroe.....	60,100	69,096	2,986
Montgomery.....	18,924	13,129	96
Morgan.....	19,502	18,545	* 957
Moultrie.....	13,688	12,948	* 734
Moultrie.....	28,078	83,008	1,925
Moultrie.....	31,514	82,686	1,129
Moultrie.....	18,699	14,481	782
Moultrie.....	29,987	28,710	* 1,227
Moultrie.....	55,355	70,878	15,098
Moultrie.....	16,007	17,529	1,522

COUNTIES.	1880.	1890.	Increase.
Piatt.....	15,558	17,093	1,479
Pike.....	88,761	81,000	* 2,761
Pope.....	18,256	14,016	760
Pulaski.....	9,507	11,255	1,848
Putnam.....	5,554	4,780	* 894
Randolph.....	25,690	25,049	* 641
Richland.....	12,545	15,019	* 526
Rock Island.....	38,302	41,917	8,615
Saline.....	15,940	19,842	3,402
Sangamon.....	62,584	61,195	8,801
Schuyler.....	16,340	16,018	* 226
Scott.....	10,741	10,804	* 487
Shelby.....	80,370	81,191	521
Stark.....	11,307	9,992	* 1,225
St. Clair.....	61,806	66,571	4,765
Stephenson.....	81,968	81,888	* 625
Tazewell.....	29,666	29,556	* 110
Union.....	18,102	21,549	8,447
Vermilion.....	41,588	49,905	8,817
Warren.....	9,945	11,866	1,921
Washington.....	22,038	21,381	* 1,652
Wayne.....	21,119	19,962	* 1,850
White.....	21,291	28,806	2,515
Whiteside.....	28,057	25,005	1,918
Will.....	80,885	80,854	* 81
Williamson.....	58,422	62,007	8,585
Winnebago.....	19,894	22,226	2,902
Woodford.....	80,505	89,988	9,483
Woodford.....	21,620	21,429	* 191
Total.....	8,077,571	8,892,851	748,480

* Decrease.

The population of the city of Chicago for 1890 was 1,099,850, an increase of 596,665 in ten years.

County Debts.—The total debt of Illinois counties for 1890 was \$11,760,506, a decrease in ten years of \$2,635,755. Of this debt all but \$292,740 is bonded. Forty-six of the 103 counties of the State are without debt.

Finances.—The State debt is only \$23,100, represented by bonds that have ceased to bear interest and are payable on presentation to the Treasurer. There is a large surplus in the treasury, and a moderate rate of State taxation is sufficient to provide revenue for the generous support of the State institutions. For 1890 the rate was 2-25 mills for general State purposes, and 1-35 mill for school purposes.

Under the wise provision that retained to the State, in consideration of the franchise, and valuable lands granted to the Illinois Central Railroad, an interest to the extent of 7 per cent. of the gross earnings of the road, to be paid annually into the State Treasury, there has been paid for the years from 1855 to 1890, inclusive, \$12,365,618. Upon the \$40,000,000 of capital stock of the company paid in, there was paid as dividends in the same period \$64,782,357, showing that an amount slightly exceeding 19 per cent. of the total paid as dividends on such \$40,000,000 of paid in stock has been turned into the State Treasury. For the year ending April 30, 1890, the State's 7 per cent. of gross earnings paid amounted to \$486,281. The showing for the six months ending Oct. 31, 1890, gives the State as its 7 per cent. of earnings \$257,219.

Legislative Session.—Early in June Gov. Fifer issued a call convening the Legislature in extra session on July 23, to legislate on subjects pertaining to the World's Columbian Exposition, the site for which, by a recent act of Congress, had been established at Chicago. One of the results of the session was an act granting the following rights to the Exposition authorities: 1. The use and occupation of all lands or right

therein of the State of Illinois, whether submerged or otherwise, within the limits of Chicago or adjacent thereto, which may be selected by said authorities as the site or sites for holding said Exposition, such use and occupation to continue not over one year after the close of said Exposition; 2. The use and occupation, for such term as may be necessary for their purposes, of any public ground, park, and rights appurtenant thereto, owned or controlled by the city of Chicago, the authorities of said city consenting thereto, with the right to make improvements thereon, the buildings to be removed within one year after the close of the Exposition, unless otherwise agreed upon, and the city having the right to purchase such buildings at cost. It is further provided that the use of any submerged lands of the State which may be filled or reclaimed by the Exposition authorities, under the provisions of the act, shall accrue to the city of Chicago, after the close of the Exposition, to be forever maintained as a public park, and whenever any part thereof shall be diverted to any other use, it shall revert to the State. The park commissioners in charge of the public grounds, or any part thereof, selected as a site for the Exposition, may issue \$500,000 in bonds, the proceeds thereof to be used in improving such grounds, provided that, at an election therefor, the legal voters of the park district agree to such issue. A resolution was also adopted providing for the submission to the people, at the next November election, of an amendment to article 9 of the State Constitution, such amendment to form section 13 of said article and being:

The corporate authorities of the city of Chicago are hereby authorized to issue interest-bearing bonds of said city to an amount not exceeding \$5,000,000, at a rate of interest not to exceed 5 per cent. per annum, the principal payable within thirty years from the date of their issue; and the proceeds thereof shall be paid to the treasurer of the World's Columbian Exposition, and used and disbursed by him under the direction and control of the directors in aid of the World's Columbian Exposition to be held in the city of Chicago, in pursuance of an act of the Congress of the United States; provided that if, at the election for the adoption of this amendment, a majority of the votes cast within the limits of the city of Chicago shall be against its adoption, then no bonds shall be issued under this amendment. And said corporate authorities shall be repaid as large a proportionate amount of the aid given by them as is repaid to the stockholders on the sums subscribed and paid by them, and the money so received shall be used in the redemption of the bonds issued as aforesaid; provided that said authorities may take, in whole or in part of the sum coming to them, any permanent improvements placed on land held or controlled by them; and provided further, that no such indebtedness so created shall, in any part thereof, be paid by the State or from any State revenue, tax, or fund, but the same shall be paid by the said city of Chicago alone.

Another resolution recommends to the Exposition authorities the employment of American citizens only, or such as have announced their intention to become such, and to exact only eight hours for a day's labor. The session adjourned on Aug. 1.

Education.—The following public-school statistics cover the school year ending in 1889: Number of graded schools, 1,501; number of ungraded schools, 10,723; school population (six to twenty-one years of age) 1,133,867; total num-

ber enrolled in public schools, 763,411; male teachers, 6,980; female teachers, 16,100. During the same time there were enrolled in private schools, including parochial schools, 98,503 pupils. For the school year ending in 1890 the State Superintendent of Public Instruction reports the following statistics: Total number of schools, 12,259; total school population, 1,163,440; total number enrolled in public schools, 778,319; average daily attendance, 537,310; male teachers employed, 7,523; female teachers employed, 15,642; average monthly wages of male teachers, \$53.30; average monthly wages of female teachers, \$43.48; average length of school year, 7.4 months; number of school houses, 12,252; estimated value of school property, \$27,000,000. The total expenditure for maintaining the schools of the State during the year was about \$12,000,000. Statistics from private schools show that there were 998 during the year employing 2,966 teachers and having 105,232 pupils.

The Governor finds the operation of the compulsory school law to be very beneficial, notwithstanding the hostility that has been shown toward it, but recommends that it be amended so as to remove all just cause of complaint.

Prisons.—The recent adoption of a constitutional amendment forbidding contract labor at the State prisons imposes upon the next General Assembly the necessity of providing labor for the convicts. At the Joliet Penitentiary there were 1,365 convicts confined on Oct. 1, 1890. Contracts for the labor of 305 of these expired on Aug. 1, 1889, and for the labor of 125 others on July 1, 1890. Of the contracts still in force seven will expire on Oct. 1, 1892, releasing 472 convicts, and the remaining contracts, seven in number, will expire on Oct. 1 and Nov. 1, 1894, releasing 269 more. These 741 prisoners, now employed under existing contracts, are each earning about sixty cents a day.

During the year the prison commissioners entered into agreements for the employment on the piece-price plan of those convicts that were left unemployed by the expiration of the contracts, such agreements being subject to the action of the General Assembly. On Oct. 1, 1890, there were confined in the Southern Illinois Penitentiary at Chester 667 convicts, 125 of whom are working under a contract, which will expire on June 20, 1894. Two contracts have already expired, one on July 1 and the other on Aug. 1, 1890, releasing 250 convicts. By the expiration of these contracts the earning capacity of the prison has been reduced in the sum of \$36,000 annually. The convicts not working under unexpired contracts are employed in building the Institution for Insane Criminals provided for by the last General Assembly, in making brick, cultivating the farm, and in and about the warden's house and other departments.

Charities.—The cost of maintaining the charitable institutions of the State for the year ending June 30, 1890, was \$996,601, and the total number of inmates was 10,271, of whom 5,772 were insane, 507 deaf and dumb, 187 blind, 489 feeble minded, 503 soldiers' orphans, 526 inmates of the reform school, and 1,347 soldiers and sailors.

The average attendance at the Soldiers' and Sailors' Home was 789; at the Soldiers' Orphans' Home, 313; at the four hospitals for the insane,

3,701; at the Institution for the Education of the Deaf and Dumb, 364; at the Institution for the Education of the Blind, 121; at the Asylum for the Feeble-Minded, 410; at the Eye and Ear Infirmary, 139; and at the Reform School, 359. Some of these institutions are overcrowded, and admission is refused to many for want of room.

The net average cost of each beneficiary for the year was \$160.84, the highest being \$312.15, at the Institution for the Blind, and the lowest being \$138.90, at the Eastern Hospital for the Insane.

Militia.—The strength of the Illinois National Guard is nearly 4,000, which is the limit allowed by law. The force is organized into two brigades, each comprising three infantry regiments of twelve companies each and a battery of light artillery. At the close of the last encampment, in the summer of 1889, it had reached a high state of discipline, and its general condition was perhaps never better than at that time. The thirty-sixth General Assembly greatly reduced the appropriation, and for this reason it was found impossible to hold the regular annual encampment for 1890.

State Banks.—On April 22 the 42 State banks, making report to the State Auditor, showed a total of \$42,348,489 in loans and discounts, \$6,013,485 in cash on hand, and total resources of \$60,881,680. Their capital stock paid in amounted to \$9,396,500, undivided profits to \$1,342,654, surplus fund to \$3,163,610, individual profits to \$24,578,053, and total liabilities, excluding individual profits and surplus fund, to \$56,385,416.

Illinois and Michigan Canal.—This canal, in connection with Illinois river, constitutes a system of water communication through the State, and largely reduces freight rates along its line. Its total earnings for the fiscal years 1889 and 1890 amounted to \$183,654.17, and the total cost of maintenance was \$170,146.27. Expensive and necessary improvements recently made have reduced the earnings for the period below the usual figures. The balance in the hands of the canal commissioners on Dec. 1 to the credit of the canal was \$76,333.03.

Railroads.—The annual report of the State railroad commissioners for 1890 presents the following statistics: Total mileage, 10,163 miles; total capital stock, \$847,488,296.90; bonds, \$920,683,061.73; equipment trust obligations, \$1,449,505.41; total value, \$1,769,620,864.04. These figures show an increase of capital compared with the previous year of \$198,144,498.08. The gross earnings were \$262,091,753.14; operating expenses, \$170,399,077.53; income from operation, \$91,697,726.74; income from other sources, \$6,363,641.57; total income, \$98,061,368.31; deductions from income, \$69,865,907.44; net income (41 roads), \$29,591,581.86; net deficit (21 roads), \$1,384,172.13. During the year there was carried a total of 50,796,636 tons of freight, of which 11,006,271 tons were agricultural products and 14,944,966 tons the products of mines. The previous year the total tonnage carried was 46,939,129. Reports for the year show the total number of railroad employes in the State to be 57,435, with an aggregate yearly compensation of \$33,991,986.16.

Live Stock.—For years the much-dreaded Texas fever, of which but little is known save that

native cattle exposed to the fresh trail of Southern cattle are condemned to almost certain death, has annually depleted the herds of Illinois. As a result of investigations and experiments made by the State Board of Live Stock Commissioners, rules and regulations have been by them formulated and adopted for the safe conduct of the traffic in Texas and Southern cattle into or through the State during the seasons when danger is to be apprehended, which rules the Thirty-sixth General Assembly enacted into law. A rigid and successful enforcement of these rules during the year kept the State practically free from the ravages of the disease. The board protected the herds from other contagious diseases, and it is believed also that the health of the people has in many instances been preserved by them. Within two years this board has condemned, slaughtered, and destroyed 2,548 head of cattle infected with actinomycosis, or lumpy jaw, a contagious disease which is capable of being communicated to other animals and to man.

Political.—A State convention of the Prohibition party met at Bloomington, on May 27, and nominated R. R. Link for State Treasurer, and Carl Johann for Superintendent of Public Instruction. Trustees of the State University were also nominated. The platform declares the legalized traffic in intoxicating liquor to be the most enormous and dangerous political outrage of the age. The enforcement of the scientific temperance law and its strengthening by the addition of adequate penalties by the next Legislature is advocated. The following measures are also favored: A tariff for revenue only; free and unlimited coinage of silver; a service pension, the minimum monthly pension to be five dollars; the limitation of individual as well as corporate ownership of land; the speedy adoption of the Australian ballot system; the election of United States Senators by the people; Government control of railroads and telegraphs; suppression of "trusts"; reduction of the legal rate of interest to 6 per cent.; and enactment of a Sabbath law and its enforcement.

On June 4 the Democratic State Convention assembled at Springfield. It nominated Edward S. Wilson for State Treasurer, Henry Raab for Superintendent of Public Instruction, and three candidates for trustees of the State University. A resolution was adopted nominating General John M. Palmer for United States Senator, and instructing the Democratic members of the next Legislature to vote for him. The platform treats of State issues at length as follows:

We denounce the Republican party of Illinois for its broken promises, in not so equalizing the taxes as to compel the large corporations and trusts to pay their equal proportion of our State, county, and municipal taxes. The imposition of over 75 per cent. of the taxes upon the lands of the State is a wrong which calls loudly for redress.

We demand the enactment of a law abolishing forever the system of truck stores; the enactment of a law for the examination of mine bosses; the enactment of a law providing for the examination of stationary engineers; the enactment of a law providing for the weighing of coal before screening; the amendment of the mining laws so as to provide for the inspectors of the respective inspection districts, or some other competent person to act as sealer of weights and measures for the adjustment of scales upon which coal is weighed at the mines.

We are in favor of the eight-hour work day.

We favor the adoption of the Australian ballot system.

The Democratic party pledges itself that all deposits of State funds shall be in Illinois banks, and that the interest thereon shall be paid into the State treasury, and that such legislation as is necessary shall be enacted to carry this resolution into effect.

We favor the election of United States Senator by direct vote of the people.

We are in favor of the election of the Railroad and Warehouse Commissioners by direct vote of the people.

We favor the preparation and publication of a series of school books and furnishing the same to the school children of this State at actual cost.

We declare that the parental right to direct and control the education of the child should forever remain inviolate, and that the provisions of the law of 1889, commonly known as the Compulsory Education statute, impairing that inalienable right, should be at once repealed.

The Republican State Convention met at Springfield, on June 24. Its nominees were Franz Amberg for State Treasurer, and Richard Edwards for Superintendent of Public Instruction, the latter being renominated. Three trustees for the State University were also selected. The platform denounces "trusts," recommends the passage of an Australian ballot law, and further declares as follows:

The Republican party has ever been the champion of the American working man against the oppressions or exactions of corporate monopoly, as various enactments on the Illinois statute books originating with Republicans and passed by the vote of Republican majorities testify. We favor the amendment of those laws or the enactment of new ones wherever and whenever experience suggests that amendment or enactment is required so as to secure the protection of the working man in life or limb, or which may guarantee to him reasonable working hours and fair compensation and its prompt collection.

We recognize the American public-school system as the chief agency in securing intelligent citizenship, and the chief bulwark of popular liberties, and we declare in favor of a compulsory education law which will guarantee to all the children of the State ample opportunity of acquiring such an elementary education as will fit them for the intelligent performance of civic and political duties when they reach the age of manhood. But we are at the same time opposed to any arbitrary interference with the right of parents or guardians to educate their children at private schools, no matter where located; and we favor the amendment of the existing compulsory education law so as to conform to the declarations herein set forth, and also the repeal of so much of said law as provides for public supervision over private schools.

In the canvass State issues were not prominent, the contests in the several Congressional districts diverting the interest from the State ticket. Although the farmers made no efforts to nominate an independent State ticket, they were notably active through their various societies, and in some cases placed in the field their own candidates for the Legislature. Their demands are summarized in the following resolutions, adopted at the meeting of the State Alliance, on Oct. 30, at Springfield:

That we are in favor of a uniform series of textbooks for our public schools, and we demand that the State furnish them to the school boards at cost; and we demand such legislation as will carry these resolutions into full force and effect; and we further demand a fair English education for every child in the State of Illinois.

We indorse the Australian system of voting, and we demand of our next Legislature proper enactments to carry the same into full force and effect throughout the State.

We are in favor of the Railroad and Warehouse Commissioners being elected by the direct vote of the people.

We declare that we believe that the Board of Equalization of Taxes is unjustly influenced by, if not in the pay of the corporations of the State, and we declare that the board ought to be abolished, and when a person owes a debt represented by a mortgage note, such person shall be entitled to an exemption in such proportion as the amount of such mortgage is to the value of the property upon which he may pay taxes.

That all circuit clerks be compelled to furnish a list of all mortgages recorded in their offices to the assessor of each township, and the said mortgages and all notes shall bear the name or stamp of the assessor or be null and void.

That the lawful rate of interest in the State of Illinois be 4 per cent. and contract 6.

The election in November resulted in a Republican defeat. For Treasurer, Wilson received 331,837 votes; Amberg, 321,990; Link, 22,306. For Superintendent of Public Instruction, Raab received 345,912 votes; Edwards, 311,860; Johann, 18,296. The following Democrats were elected trustees of the State University: Richard P. Morgan, John H. Bryant, Nelson M. Graham. For members of the Legislature, 101 Democrats, 100 Republicans, and 3 Farmers' Mutual Benefit Association members were elected, divided between the two Houses as follows: Senate, 27 Republicans, 24 Democrats; House, 73 Republicans, 77 Democrats, 3 Benefit Association members. Upon the constitutional amendment to perfect the provisions for establishing savings banks, the vote was 480,512 in its favor, to 56,737 against it. The amendment to enable Chicago to borrow \$5,000,000 for the World's Fair was adopted by a vote of 500,299 in favor, to 176,518 against it. A majority of the votes cast in the city of Chicago were also in favor of the amendment, and it thereby became effective.

For Members of Congress the Republican candidates were successful in only 6 of the 20 Congressional districts, a loss of 7 districts.

Some doubt being expressed regarding the eligibility of W. C. Collins, a Republican Senator-elect from the Twenty-first District, his resignation was filed with the Governor in December, and a special election to fill the vacancy was ordered to be held on Dec. 30. At this election William Payne, Republican, received 2,595 votes, and John A. Wilson, Democrat, 1,081 votes.

INDIA, an empire in southern Asia subject to Great Britain. The executive and legislative powers are exercised by the Governor-General, sometimes called the Viceroy, assisted by a Council whose members preside over the various departments of state. The commander-in-chief of the forces in India is a member of the Governor-General's Council *ex officio*. Legislative measures are usually laid before the Legislative Council by the Viceroy. Changes in the system of government established by the act for the better government of India, passed in 1858, require a special act of the British Parliament to become law. The final decision on all other matters rests with the British Cabinet, and is delegated to a single member of the Cabinet, the Secretary of State for India. The Legislative

Council, which frames the acts of the Governor-General in council, embracing all ordinary laws and regulations, consists of the members of his Council and from six to twelve additional members nominated by him. The Marquis of Lansdowne succeeded the Marquis of Dufferin and Ava as Governor-General on Dec. 11, 1888. The Governors of Madras and Bombay have Executive and Legislative Councils, and separate armies, and a civil service independent of that of the Viceroy, and the Lieutenant-Governors of Bengal and the Northwest Provinces exercise a certain measure of legislative authority through their Legislative Councils. The administration of the different provinces is to a large extent autonomous, except that the Governor-General has the supreme direction over everything. The provinces are divided into districts, each of which is under the entire control of a collector-magistrate or a deputy commissioner, who is responsible to the commissioner of the division or, in provinces where the districts are not grouped in divisions, directly to the Governor. There are altogether 235 districts in British India. In some districts the collector-magistrate still combines judicial with executive functions. The Viceroy, through political agents or residents at the native courts, exercises a control over the feudatory states, which varies according to circumstances.

Area and Population.—The area of the British territory has been increased by the annexation of Upper Burmah in 1886 from 869,000 to 1,064,720 square miles. The population in 1888 was reckoned at 208,000,000, which is about one seventh of the population of the world. The feudatory states, including the recent accessions of Manipur and Cashmere, have an area of 598,484 square miles and a population of about 62,405,000. The population of British birth in 1881 numbered 89,798 persons, including 55,808 soldiers, 2,996 civil officers, 2,448 seamen, 2,319 railroad employes, 887 connected with commerce, 806 in the navy, 461 civil engineers, 541 agriculturists, 280 coffee planters, 178 missionaries, and 321 physicians. The average death rate for British India ranged from 20.98 per thousand in 1880 to 28.35 in 1887 during the nine years ending with the latter year. In 1887 there were in Bengal 24.71 births per thousand and 22.74 deaths; in the Northwest Provinces and Oudh, 41.24 births and 31.98 deaths; in the Punjab, 38.84 births and 26.91 deaths; in the Central Provinces, 45.36 births and 34.21 deaths; in Berar, 42.90 births and 36.07 deaths; in Lower Burmah, 25.51 births and 19.89 deaths; in Assam, 27.95 births and 27.91 deaths; in Madras, 29.30 births and 21.80 deaths; in Bombay, 34.79 births and 28.78 deaths; in Mysore, 24.14 births and 15.91 deaths; in Coorg, 17.48 births and 16.57 deaths. The coolie emigration, which is mainly directed to the British colonies of Mauritius, Natal, the British West Indies, and British Guiana, was 17,936 in 1883-'85, 22,385 in 1884-'85, 6,967 in nine months of 1885, 7,666 in the calendar year 1886, 6,889 in 1887, and 9,624 in 1888. In the last-named year 5,842 were destined for the West Indies, 1,413 for Natal, 714 for Mauritius, 605 for the French West Indies, 537 for Fiji, and 513 for Surinam.

Education.—The result of the recommendations of the commission appointed in 1888 has been an extension of elementary education, the encouragement of native schools and the direction of attention to female education, and the teaching of the Mohannedans and other neglected classes. In 1888 the schools of all grades and descriptions numbered 133,352, of which 126,298 were for males and 7,054 for females. There were 18,278 public schools and 60,026 private schools that received aid from the state. The male schools included 126 colleges, with 13,559 students; 4,253 secondary schools, with 417,111 pupils; 84,989 primary schools, with 2,335,702; 499 medical, technical, industrial, and other special schools, with 15,459; and 36,431 advanced and elementary private institutions, with 511,779; making the total number of males under instruction 3,193,610. In the 7,054 female schools of all kinds there were 80,285 girls receiving instruction. The spread of education has led to a remarkable development of native literature. In 1887 there were 315 newspapers printed in 12 native languages, and in the preceding year 8,877 books and magazines were issued, nine tenths of them in the vernacular.

Finances.—The ordinary receipts for the year ending March 31, 1889, amounted to the sum of Rx 81,696,678, of which Rx 484,468 were received in England. The land revenue amounted to Rx 23,016,404; opium tax, Rx 8,562,319; salt monopoly, Rx 7,675,634; stamp duties, Rx 3,927,088; excise, Rx 4,705,346; share of provincial revenues, Rx 3,054,254; customs, Rx 1,332,784; licenses, Rx 1,520,940; forests, Rx 1,349,047; registration, Rx 351,712; tribute, Rx 745,233; interest, Rx 841,822; posts, telegraphs, and mint, Rx 2,244,826; civil departments, Rx 1,567,961; railroads and irrigation, Rx 18,026,167; military services, Rx 1,062,363; miscellaneous, Rx 1,792,778. The total expenditure was Rx 81,659,660, of which Rx 21,954,657 were paid out in England. The interest on the debt was Rx 4,712,259; refunds, Rx 1,714,853; costs of collection, Rx 8,023,043; expenses of the post-office, telegraphs, and mint, Rx 2,146,511; administration, Rx 1,745,156; legislation and justice, Rx 3,528,435; police, Rx 3,754,294; navy, Rx 578,284; public instruction, Rx 1,722,092; foreign affairs, Rx 756,193; ecclesiastical affairs and public health, Rx 929,089; pensions and grants, Rx 3,976,898; public printing, etc., Rx 907,478; famine relief, Rx 78,336; army, Rx 21,091,436; public works, Rx 25,710,186; miscellaneous, Rx 285,118. The consolidated debt amounted on March 31, 1889, to Rx 195,913,352, of which Rx 100,879,742 were payable in India and Rx 95,033,610 were payable in England. Of the total, about Rx 91,000,000 were borrowed for railroads and Rx 26,000,000 for irrigation works. There was an unfunded debt contracted in India amounting to Rx 10,706,207, making the total capital of the debt at that date Rx 206,619,559. The budget estimates for 1889-'90 made the total ordinary receipts Rx 82,935,300 and the expenditures Rx 82,829,000. Not included in the budget is a reproductive capital expenditure on public works of Rx 3,191,470 in 1889 and Rx 2,349,090 in 1890. Since 1879 the land tax has increased from Rx 22,323,868, while the opium and salt taxes have diminished in the ten years from Rx 9,399,401

and Rx 6,941,120 respectively. The loss by exchange in £15,000,000, which is about the sum that has to be spent annually in Great Britain out of the Indian revenue, due to the fall in the gold value of the rupee, has been in some years as much as Rx 7,500,000. The value of silver coined in 1884 was Rx 3,668,401; in 1885, Rx 5,794,232; in 1886, Rx 10,285,567; in 1887, Rx 4,616,536; in 1888, Rx 10,788,424. The total coinage of silver and copper from 1859 to 1889 has been Rx 188,008,000.

Defense.—After the Sepoy mutiny the 40,000 British troops were increased to 72,000 and the native contingent was reduced from 215,000 to 152,000. In 1890 the British army estimates provided for 45,399 European troops in Bengal, 12,794 in Bombay, 11,366 in Madras, 3,200 in Upper Burma, and 136 others; total, 72,895. The native army in 1888 numbered 145,177 men. Of 17,000 volunteers of European extraction, 14,000 were in 1888 reported as efficient by the inspectors. The Indian Government has two armored turret ships at its disposition, the "Abyssinia" of 2,908 tons, and the "Magdala," of 3,344 tons, each armed with four guns. The British squadron on the East India station in 1889 numbered 13 vessels of war, and on the China station there were 22. The plan of frontier defense approved by Sir Frederick Roberts and carried out by Lord Dufferin and Lord Lansdowne embraces three distinct measures: (1) The connection of the frontier with the base in India by railroad communication; (2) fortifications or protective works at selected positions commanding the approaches to India from Central Asia; (3) the fortification of certain great cantonments that are to serve as the immediate strategic base for operations against an invading army. The first two parts of this scheme are rapidly approaching completion. The third is not yet fully elaborated. Rawul Pindi is to form the arsenal, hospital base, and commissariat center for the army defending the upper Indus, and its fortifications will be brought up to the modern standard. This fortified camp will form the eastern extremity of the line commanding the Khyber, which will have at its western end the strongly garrisoned outpost of Peshawur and the fortified passes and in the middle the fortress of Attock commanding the passage of the Indus. The auxiliary forces to be accepted from the feudatory princes and trained as a part of the Indian army as a step toward utilizing the 360,000 men maintained under arms in the native states, one third of whom may be regarded as regular soldiers, will consist of about 25,000 men. Up to 1889 the feudatory princes had offered to maintain for the defense of the empire in time of war and to place at the disposal of the Indian Government the total number of 17,276 picked infantry and 7,046 cavalry, besides transport and artillery. The offers of artillery were not accepted, but the proposition to maintain transport animals in constant readiness was accepted eagerly. The imperial regiments of the feudatory states are expected to be selected troops brought up to a high state of efficiency, composed exclusively of natives of the individual state and officered by its aristocracy, with no British officers except such as are temporarily lent for purposes of instruction. The new regiments will be annually inspected by British

generals and high political officers. On Nov. 6, 1890, the Viceroy inspected the imperial cavalry of Jodhpore, a regiment composed of pure Rajputs, which presented a fine appearance and showed the results of excellent training. The Quetta Railroad is being extended to Candahar as rapidly as possible. The chief part of the work is the piercing of the Kwaja Amran range with tunnels, one of which is nearly three miles long. A light railroad for temporary use was built over the mountains in the autumn of 1890.

Commerce and Production.—The values of the various imports and classes of imports for the year ending March 31, 1889, were as follow, in tens of rupees:

IMPORTS.	Value.
Cotton manufactures.....	31,511,805
Metals, hardware, and cutlery.....	5,156,217
Silk, raw and manufactured.....	2,588,104
Rails and rolling stock.....	2,498,239
Machinery.....	2,316,571
Oil.....	2,072,834
Coal.....	1,907,212
Sugar.....	1,790,939
Provisions.....	1,588,102
Woolen goods.....	1,561,550
Liquors.....	1,483,208
Apparel.....	1,243,097
Salt.....	882,130
Spices.....	855,282
Glass.....	658,354
Drugs.....	560,596
Umbrellas.....	410,603
Paper.....	410,585
Grain and pulse.....	116,216

The total value of merchandise imported during the year on private account was Rx 66,570,318. The values of the principal exports of private merchandise of Indian production for the same year are given in the following table:

EXPORTS.	Value.
Raw cotton.....	15,045,647
Opium.....	10,506,051
Oil seeds and other seeds.....	9,561,756
Rice.....	7,915,854
Raw jute.....	7,597,154
Wheat.....	7,322,675
Cotton manufactures.....	6,374,563
Tea.....	5,267,815
Hides and skins.....	4,763,546
Indigo.....	3,948,594
Jute manufactures.....	2,771,477
Coffee.....	1,864,248
Wool.....	968,758
Dyes, other than indigo.....	728,875
Wood.....	660,696
Spices.....	560,206
Provisions.....	553,458
Sugar.....	550,389
Raw silk and cocoons.....	511,750
Oils.....	480,806
Saltpeter.....	401,800
Lac.....	400,020
Silk manufactures.....	288,457

The total value of exports was Rx 92,642,734. Of the imports, 82.3 per cent. consisted of manufactures, 8.3 per cent. mineral products, 6.1 per cent. products of agriculture, 1.7 per cent. produce of fisheries, and 1.6 per cent. produce of stock growing. Of the exports, 82 per cent. consisted of agricultural products, 11 per cent. of industrial products, and 7 per cent. of the produce of live stock. The foreign trade of 1889 was divided among the geographical sections of India in the following manner, the figures giving in tens of rupees the imports and exports of both merchandise and specie on private account:

DIVISIONS.	Imports.	Exports.
Bombay and Sindh	42,352,050	44,152,757
Bengal	27,118,724	37,573,741
Madras	5,932,605	10,446,948
Burmah	5,011,889	6,108,832
Total	80,415,277	98,681,668

Including Government stores, the total imports in 1889 were 83,282,678 and the exports 98,844,620. The imports and exports of bullion and specie, both on private and Government account, for the last five financial years are shown in the following table, giving the values in tens of rupees:

YEAR.	GOLD.		SILVER.	
	Imports.	Exports.	Imports.	Exports.
1885	4,778,172	106,286	9,110,025	1,864,304
1886	3,091,540	328,696	12,846,260	779,691
1887	2,895,538	65,439	8,219,761	1,061,029
1888	3,236,061	248,572	10,589,508	1,861,052
1889	3,119,988	895,154	10,725,871	1,479,192

The distribution among the different countries in the foreign trade of British India is shown in the following table, which gives, in tens of rupees, the values of merchandise imported from, and of Indian produce exported to each country designated in 1889:

COUNTRIES.	Imports.	Exports.
Great Britain	52,576,440	36,250,572
China	1,911,836	14,024,557
France	914,384	8,410,444
Straits settlements	2,278,413	4,072,907
Belgium	526,698	4,668,799
United States	1,040,818	3,589,255
Italy	504,797	3,470,113
Egypt	78,042	8,483,500
Austria	768,385	8,040,688
Ceylon	554,879	1,938,056
Mauritius	1,575,048	653,511
Germany	248,016	1,498,278
Australia	294,111	1,088,250
Japan	28,835	1,985,304
East Africa	650,750	410,198
Arabia	840,092	677,504
Persia	790,957	908,747
Spain	8,861	383,908
Holland	11,715	837,187

Imports of the value of Rx 55,377,385 and exports of the value of Rx 57,227,190 went through the Suez Canal.

Not included in the above figures is the land trade, which is carried on with thirty states, including Cashmere, the trade with Nepal being the most important, as most of the trade with Tibet passes through that state, although the settlement of the Sikkim question and the restoration of tranquillity in the Chumbi valley is likely to change that condition of affairs. Cotton piece goods, two thirds of which are British and the other third Indian, are largely exported to Nepal, Cashmere, and Tibet, the total value in 1889-'90 being Rx 2,063,766. Yarns are also exported and raw cotton to western China. The imports of wool from Tibet are increasing. Among other exports are indigo and other dyes to Cabul, and Indian tea, the demand for which in central Asia has not expanded to the expected extent. The exports to Afghanistan increased from Rx 574,890 in 1888 to Rx 796,517 in 1890. The total trade across the land frontiers for 1889-'90 was

Rx 3,737,678 of imports and Rx 5,113,749 of exports, inclusive of treasure, showing an increase in the merchandise exports of Rx 450,410 and a decrease of over Rx 200,000 in the imports.

The trade of Burmah for 1889-'90 was by far the largest on record, the imports of private merchandise being Rx 235,000 and the exports Rx 1,917,500 more than in the previous year. The largest part of the increase in imports was due to large supplies of kerosene from the United States. The imports of oil were Rx 245,000; of cotton goods, Rx 240,000; of cotton yarns, Rx 213,000. The exports of rice were Rx 1,640,000; of teak, Rx 237,500; of cutch, Rx 135,000; of raw cotton, Rx 80,000. The imports of Burmah for the two years before the war averaged Rx 3,750,000 and the exports Rx 5,980,000; during the two years of fighting the imports were Rx 3,560,000 and the exports Rx 6,680,000 a year; and during the last three years the average value of the imports has been Rx 5,380,000 and of the exports Rx 6,840,000.

The returns for the whole of India for the year ending March 31, 1890, show a slight falling off in the value of imports and a large gain, amounting to Rx 6,445,598 in the value of exports. The total imports of merchandise and Government stores were Rx 69,199,376, which was Rx 241,000 below the previous year, but above the average for the five years immediately preceding by Rx 7,683,100. The falling off as compared with 1888-'89 was due to a decrease in the imports of textiles and cotton yarns that more than balanced an increase in the imports of copper, which plays an important part in native industries. The exports of Indian products and manufactures amounted to Rx 99,088,333. The increase was mainly due to larger exports of raw cotton, jute, and rape seed.

The cotton crop of India for the season 1889-'90 was the largest ever known. The quantity received at Bombay was 2,238,000 bales of 350 pounds, and at Calcutta 146,856 bales. The Indian shipments to Europe, China, and other foreign ports, amounted to 1,939,610 bales, against 1,632,000 in 1888-'89. The quality shows an improvement, though complaints of adulteration are still common.

The state forests in 1889 covered 54,917 square miles. In 1878 there were only 17,705 square miles. In the next year large areas in the Central Provinces and elsewhere were added, increasing the total to 40,425 square miles. The total figure for 1889 was made up of 19,712 square miles in the Central Provinces, 10,236 in Bombay, 5,111 in Lower Burmah, 4,988 in Bengal, 3,727 in Madras, 3,727 in the Northwestern Provinces and Oude, 3,447 in Assam, 1,535 in the Punjab, and 1,059 in Berar.

The British mill owners, who effectually resisted the proposal to place a slight duty on imports of cotton goods for the encouragement of Indian manufactures, now that the industry has attained so great a development in Bombay, show a desire to cripple their Indian competitors by interfering with the conditions of native labor, and in this they are seconded by the British working classes. For their behoof, and not from any spontaneous demand emanating from either laborers or employers in India, an Indian factory commission was appointed, which made

its report in November, 1890. The commission do not recommend a limitation of the hours of labor for men, but for women they would set the limit at eleven and for children at six and three quarter hours a day, and they would introduce compulsory Sunday rest for all factory labor except when one or more native holidays occur in the week. The payment of wages monthly is recommended, and employers are advised to adopt more generally the system of providing medical treatment and drugs for their work people and to start provident funds for insuring them against accidents and disability and schools for the education of juvenile laborers. The operatives are accustomed to work from dawn till dusk, and they prefer not to be restricted to shorter hours. The commissioners declare their opinion to be that the transformation of the conditions of Indian labor through the supplanting of household industry by factories has been beneficial for the working classes as far as it has gone. The reports of the Indian cotton mills show for 1889 average gross earnings of 15 per cent. and 7 per cent. dividends, while English mills earned on the average $6\frac{1}{2}$ per cent. on the invested capital and divided $3\frac{1}{2}$ per cent. among the stockholders.

The promised repeal of the English duty on silver plate gave hopes of an extraordinary development of their industry to the silver workers of India, who already find a market for their goods in Paris. The condition that imports shall be of a guaranteed degree of fineness created a difficulty that the Indian Government is studying to overcome. The metal can be tested at the mints in Calcutta and Bombay; but the silversmiths all over India can not afford to send articles to the mint to be assayed and returned to be finished and then sent a second time to the port of shipment. Unless the touchstone test, which is in use in France, is acceptable to the English Government, it may be necessary to establish assay offices at the chief centers of silver manufacture, such as Dacca and Cuttack in Bengal, Delhi in northern India, and Tanjore and Trichinopoly in southern India. A society, of which Sir George Birdwood is chairman, has been formed in England for preventing the decay of indigenous decorative art in India by encouraging native artisans to continue in the practice of their hereditary handicrafts and spreading a knowledge of the beauty and cheapness of their products in Europe.

Navigation.—In 1888-'89, 1,818 British vessels, of 2,814,877 tons, were entered and 1,872, of 2,808,135 tons, cleared at Indian ports; 1,071 British Indian vessels, of 155,334 tons, were entered and 1,125, of 155,820 tons, cleared; 657 foreign vessels, of 309,104 tons, were entered and 594, of 394,067 tons cleared; and 1,635 native vessels, of 80,964 tons, were entered and 1,713, of 85,131 tons, cleared, making the total number arrived 5,181, of 3,450,179 tons, and the total number cleared 5,304, of 3,533,153 tons. Of the vessels entered 755, of 1,408,331 tons, and of those cleared 967, of 1,735,626 tons, were steamships that passed through the Suez Canal.

Railroads.—The mileage of railroads on April 1, 1890, was 16,095. The number of passengers in 1889 was 110,650,472, against 103,156,013 in 1888; the number of tons transported

was 22,249,111; the receipts were Rx 20,493,663; expenses, Rx 10,377,401. The railroads have in recent years earned nearly 5 per cent. on their capital; but the Government, although the guaranteed interest is never more than 5 per cent., has continued to lose heavily because the interest is payable in gold, while the earnings are paid in silver. The railroads are often very costly works, yet the rates charged average less than half a cent a mile for passengers and 1 cent per ton per mile for freight of a bulky nature, like coal and grain. The mileage is increasing at the rate of 800 to 1,000 miles a year. In 1889 there were 869 miles of new railroads opened. In 1889-'90 the railroads earned 4.78 per cent. on the capital, of which the state received 4.47 per cent. The average rate of guaranteed interest was $4\frac{1}{2}$ per cent., and the net loss to the state was very nearly Rx 1,000,000. The Mandalay Railroad, constructed by the state, has paid in the first year its working expenses and the interest on the capital expended, and the Government has announced the intention of keeping the Burman system in its own hands and of spending Rx 500,000 a year in its extension. A branch line through a wheat and cotton district to the junction of the Chindwin and Irrawaddy has been begun, a continuation to Bhamo is projected, and another line through the Shan country, rich in minerals, to the Chinese province of Yunnan is in contemplation.

Posts and Telegraphs.—During the fiscal year 1888-'89 the posts transmitted 260,628,110 letters and 22,696,378 newspapers. The receipts were Rx 1,281,540, and the expenses Rx 1,342,452. The length of telegraph lines on April 1, 1889, was 33,462 miles, with 99,654 miles of wire. The number of paid dispatches was 3,010,894. The receipts were Rx 742,148, and the expenses Rx 704,092.

The Indian Congresses.—The National Congresses came into existence during Lord Ripon's indulgent administration. Their object is the defense of the political interests of the native races and the presentation of their desires to the Government. The earlier congresses were composed of Hindus, with a sprinkling of native Christians and Parsees. During the present vice-regal administration the Government has striven to discourage and check the movement. While the congresses have become more representative, influential persons and classes have fallen away on account of the attitude of the authorities. The Mohammedans, who held aloof from the earlier congresses because they were mainly supported by Bengal Hindus, were represented in the fifth Congress that was held in Bombay at the end of 1889; but the presence of a few Mohammedan delegates was the signal for a counter-movement, the organization of a Patriotic Anti-Congress League, and for anti-Congress meetings that had the almost unanimous support of the great Mohammedan community in Bombay. The influential Parsee colonies in Bombay and northwest India also frowned on the movement, and the Parsee representation was smaller than in previous congresses. The Hindu magnates and rulers have, as a rule, openly discountenanced the movement, which they regard as a manifestation of the dangerous radicalism and revolutionary spirit of the ad-

vanced and Europeanized section of the Hindus of Bengal. Some of the chief promoters of the congresses have been retired Anglo-Indian officials, like Mr. Hume and Sir William Wedderburn, who was the presiding officer of the fifth Congress. The congresses are representative, not of the agricultural classes that form the great bulk of the population, nor of the aristocracy, the land owners, or the trading guilds, but of the native professional and literary class, the graduates of the universities. In the fifth Congress the chief matter discussed was that of the participation of natives in the government of their country. A series of resolutions was adopted praying for elective representation in the imperial and provincial councils. To obtain elective institutions for India has been the great object of the movement from the beginning. In the debate on the bill for the reconstruction of the Legislative Councils that was introduced in the British House of Lords in March, 1890, the ex-Viceroy of India, Lord Northbrook and the Marquis of Ripon, and Lord Kimberley, ex-Secretary of State for India, expressed regret that no other method was proposed for selecting a part at least of the members of the councils than their nomination by the Governor-General, and in reply Lord Salisbury deprecated the idea of introducing the elective principle into India, as it was unsuited for Oriental peoples, and especially so in a country where the population is divided by such religious antagonism as exists between Hindus and Mohammedans. Lord Granville thought that the Government assumed a great responsibility in ignoring Lord Dufferin's proposals in favor of popular representation. Great indignation was felt by the members of the Bombay Congress because the provincial governments sent police detectives to identify and watch them. Since 1885 the elective principle has been in operation in the district boards which have a partial control over local taxation and expenditures. The young Maharajah of Mysore, when he was reinstated on his ancestral throne in 1881, established a representative assembly. The Bombay Congress proposed that 12 electors chosen for every 1,000,000 inhabitants should elect representatives to the imperial and to the provincial councils in the proportion of one for every 5,000,000, minorities to be proportionately represented. The elected members would form half of the total number of members in the councils, the other half consisting of official and nominated members in equal numbers. Charles Bradlaugh, who was present and promised to advocate the scheme in Parliament, introduced a bill to that effect.

Shortly before the assembling of the next National Indian Congress, which met in Calcutta toward the end of December, 1890, the Government notified its officials to abstain from attending it, and this order had the effect of keeping away most of the Europeans. A resolution was adopted asking the British Parliament to pass Mr. Bradlaugh's bill as soon as the Viceroy should decide on whom the franchise shall be conferred. Another resolution favored local option in regard to strong drink. The Congress unanimously resolved that the legal age for the solemnization of marriage should be raised to twelve years for females and eighteen for males, and for

the consummation of marriage to fourteen years for females and twenty for males; also that in the enforcement of judicial decrees for the restitution of conjugal rights the penalty of imprisonment should be abolished. The sixth Congress was composed of about 1,000 delegates from all parts of India, representing over 4,000,000 people belonging to all the various nationalities and creeds. The president was Phirozshah Mervanji Mehta, a member of the Bombay Legislative Council.

The Conservative influence of the official class, which is averse to any modification of the system of pure despotism, has been too powerful even for the viceroys and governors, who have been recalled by the present Tory Government of Great Britain as soon as they betrayed any sympathy with native aspirations for self-government or their demands for justice. Lord Reay, who attempted to root out corruption by exposing and prosecuting extortionate subordinates, was superseded as Governor of Bombay by Lord Harris on April 13, 1890. The people on his departure decided to raise a statue as a memorial of the beneficial measures and useful institutions of which he was the author.

The Indian Councils bill that was discussed in Parliament, while denying elective representation in any form, enlarged the powers of the Governor-General's Legislative Council and conceded a limited advisory control of the finances by allowing a discussion of the budget as a matter of course, whereas at present it can only be discussed when the financial plans of the Government involve a change in the law; but motions and votes are not allowed in the debate on the budget. Another concession is the right of interpellation, which is awarded, however, by restrictions that deprive it of any effective use. The right existed under the act of 1853, but was taken away in 1861 because the European members availed themselves of it inconveniently. It was not sympathy for native rights that inspired these annoying tactics. On the contrary, the contest was almost invariably over the income tax, which is apparently more unpopular in India than in any other country, because the class on which it bears is the only one that has the ear of the rulers. Repeatedly the Government has yielded to their clamor, and repealed it. In 1886, after the famine fund had been sacrificed to war expenses, it was reimposed, but the people affected, English and native, have incessantly clamored for its removal. In 1890 the agitation received a fresh impulse as the result of a ruling that profits on consignments sold in India on account of non-residents shall be taxed. Yielding to the demand of the mercantile community, the Government suspended collections, thus opening a way for extensive evasions, yet the tax it insisted on retaining; and the complaints that it was unsuited to India, provocative of serious and widespread discontent, unfair in incidence, and expensive of collection were officially declared to be untrue.

Hindu Marriages.—The question of early marriages has occupied much attention, and the reform of the custom is advocated by the progressive section of native society. Ladies practicing medicine in India declare, as the result of their observation, that the age of physical matur-

ity for girls is not earlier in India than in Europe, but later. One of the main pleas for child marriage among high-caste Hindus is the necessity of male offspring to conduct the funeral ceremonies of the father of the household. This object is oftener defeated than achieved by the practice, for statistics show that it is a frequent cause of sterility. The fatal consequences of early marriage are apparent in the computations made by a native statistician, T. N. Mukharji, a high-caste Brahman, who shows from the census tables that, while up to the age of ten, which is the legal age of consent, the proportion of boys to girls in India is 50·5 to 49·5 per cent., in the next four years it is 55·7 boys to 43·3 girls. The inference that 2,000,000 girls die from the effects of premature marriage is strengthened by the comparative statistics of Bengal, where child marriage is almost universal, and four girls in every hundred die presumably from that cause, and of other provinces where it is less general.

The system of infant marriage is the growth of a thousand years. It originated in the need of women for protection in troublous times, and received later the sanction of a religious command. The woman who dies before entering into the connubial state is lost, for marriage is the one indispensable ordinance necessary for her salvation in the future world. A father commits a deadly sin who does not provide his daughter with a husband, and to evade the possibility of this guilt he takes the earliest opportunity to fulfill his duty without regard to her age or physical maturity. For the husband also it is a religious duty to marry early in order to raise up sons to attend to his funeral rites. As the laws of marriage were religious, so was their sanction until British law stepped in to fix ten years as the age for the wife at which the husband may legally employ force to compel cohabitation, or may bring a suit for the restitution of conjugal rites, which is enforceable by imprisonment or by attachment of the wife's property, or by both. Pandits of high authority have drawn arguments from the Vedic texts and from historical records to prove that in ancient India the marriage of women was optional, that the union of youths and maidens mature enough to enter immediately into the wedded state was the marriage contemplated in the sacred books, and such was the usage as late as the tenth century of the Christian era. The reformers appeal to British legislation to alleviate the harsh conditions that weigh upon Hindu widows, a large proportion of whom are widowed in childhood without ever having seen their husbands, at least by repealing the law that works the forfeiture of their property if they remarry. The only limit to early marriages is the difficulty of finding a husband and of providing the wedding gifts. The average age among Hindus of the higher castes is seven years. Sometimes the husband is an infant like the bride, sometimes a polygamist in middle life, and sometimes an aged Brahman of high rank who marries for the sake of the presents, with no intention of seeing his bride again. If the marriage is meant to be more than a ceremony, the girl is taken from her father's house at an untimely age to be shattered in health by giving birth to weakly children before she has grown to womanhood. Unnatural

and demoralizing as is the lot of a Hindu wife, that of the widow is far worse. Child or woman, she is isolated from social life, shunned and banned and condemned to a squalid existence enlivened only by the meanest tasks of the household. There are about 2,000,000 widows in India. The act passed in 1856 permits remarriage, but a powerful caste opinion stands in the way, and this is re-enforced by the British statute sanctioning the forfeiture of all property derived from the husband, even though he may have willed his own accumulations to her with an express license to marry again. The ecclesiastical and social ban placed upon the widow who remarries, and the public penalty of excommunication and exclusion from the temple and from the rights and privileges of his caste that is visited by the priests upon the man who keeps his daughter in school and unmarried until she is fifteen or sixteen years old are the obstacles in the way of the reformers, and therefore it has been proposed to prohibit by statute the deprivation of the religious rights and caste privileges of offenders against ecclesiastical laws that have been modified by British statute.

British Beluchistan.—While Lord Lytton was Viceroy a treaty was made with the Khan of Khelat, and his frontier fort of Quetta was garrisoned with British troops. Afterward the political agency of British Beluchistan was established, and in 1887 the districts of Pishin, Shorarud, Kach, Kawas, Harnai, Sibi, and Thal Chotiali were placed under the administration of a chief commissioner, Sir Robert Sandeman. Although he is supposed to act as a mere adviser of the Khan, the power given him by treaty to arbitrate difficulties between the Khan and his subject chiefs has been so construed as to make the political agent almost supreme. The people in this arid country extract scanty crops from the valleys. Pasturage is scarce. The construction of military roads and of the Sindh-Pishin railroad has given employment to the people of the country as well as to Afghans and large gangs of laborers from India. The latter have been responsible for much of the crime that has prevailed. The predatory hill tribes on the border of Afghanistan have given the British trouble from the beginning. The raids of the Kakars of the Zhob valley led to an expedition against them in 1888 and to the annexation of new territory. The building of the railroad from the Punjab to Pishin made necessary the annexation of the Khetran valley.

In 1889 Sir Frederick Roberts resolved on the occupation of the Zhob valley, and in October and November, 1890, the operation was carried out by a large force commanded by Gen. White, co-operating with another column advancing from the Punjab. The valley, which extends in an east and west direction behind the Suliman range, commands the Draband, Gomul, and Toohi passes leading from Afghanistan, and is easily accessible from Quetta. The Kiderzais offered resistance at one place only, relying on the supposed inaccessibility of their country. When the troops appeared among them the chiefs made their submission, and the other tribes followed their example. The place chosen for the headquarters of the British resident is Apozai, near the western entrance of the Draband pass.

Sikkim.—The frontier province of Sikkim was claimed by the Tibetan Government at Lhasa because the ruler, whose territory extends across the Himalayas, was a vassal of the Lamas, and Tibetan forces were sent into Sikkim to resist the British occupation. The Chinese Amban who was sent to arrange a settlement affirmed the Tibetan claim and the suzerain rights of China over Sikkim. This view was repudiated by the Chinese Government as soon as it was made clear to the authorities at Peking that Sikkim lies south of the Himalayas; for the Chinese have latterly been willing to concede the geographical frontier of the Himalayan range that has always been claimed by the British Government. The Amban was recalled for his blunder and disgraced, and another Amban or Chinese Resident was sent to Lhasa. Still the Chinese Government clung with characteristic pertinacity to the claim of titular suzerainty. The Indian negotiators, as in the case of Cashmere, refused to acknowledge any shadowy nominal dependence of the province on China. It was not till the Amban was induced to go to Calcutta that the dispute was settled by a treaty signed on March 17, 1890, by the Amban and the Viceroy. According to this treaty, which was ratified by the Queen on Aug. 17, the crest of the range which forms the water parting between the Teesta and its affluents on the southern side and the Machu and other rivers of Tibet is recognized as the political boundary. The protectorate of the British Government and its full and exclusive control of the internal affairs and foreign relations of Sikkim are admitted, and both parties engage to respect the boundary and prevent aggression from their respective sides of the frontier. The questions of providing facilities for trade across the frontier, of the rights of pasturage on the Sikkim side, and of the arranging a method of interchanging official communications between the British authorities and the authorities in Tibet were left to be discussed by two joint commissioners to be appointed within six months after the exchange of ratifications in London.

The Chin-Lushai Expedition.—The effort to subjugate the mountain tribes on the borders of Burmah and India was renewed in the beginning of 1890. Two expeditions advanced from opposite sides of the mountains, building roads as they progressed. The troops suffered terribly from disease. Any resistance offered by the savages was requited by the burning of villages, and to deputations of the inhabitants who came to ask for terms Brigadier-General Symons replied that if they did not submit their country would be laid waste and the people hunted like wild beasts. His column, numbering over 2,000 fighting men, advanced westward to Yokwa, where it was joined by Brigadier-General Tregear's column, which occupied more than the expected space of time in its march from the west, being delayed by an outbreak of cholera and difficulties of transport. From Yokwa, which is the chief village of the southern Baungshe Chins, a large was sent northward against the Tashons or northern branch of the tribe. They were not reduced to submission without a struggle. After they had paid their fine and tribute, the British columns returned in

March to their fortified camps, called Forts White and Haka, whence small columns were sent out to punish the Seyin and Kanhow Chins for cutting telegraph wires. After the submission of the Tashons other tribes gave in voluntarily and delivered up their captives. One of the objects of the expedition was to find a route for a railroad between Upper Burmah and Lower Bengal. The officers explored the entire country, encountering little hostility after the natives learned that a single shot was followed by the destruction of their crops and villages. The troops, with the exception of small garrisons, were withdrawn in April.

The Tonhon Expedition.—A column under Major Blundell was dispatched from Bhamo in December, 1889, to punish Kan Hlaing, chief of the Tonhon Kachyens, whose principal village is Swesaing, for his raids on British territory and for having harbored Sawyannine, the Alompira pretender. The force attacked Swesaing on Dec. 23, and the Kachyens fought stubbornly and well, though shell after shell was dropped in their midst. The next day, when the English burned their village, they fell upon the rear of the column with fury. Tonhon was captured after a bombardment that set it on fire. The Kachyens retreated across the Shweli river. The next day they returned and attacked the British camp. After halting ten days at Tonhon, the column marched to the Shweli river, crossed it with much difficulty, and marched on Mantene, where the rebel Prince Sawyannine had established his headquarters. He was reported to have two guns and a force of 2,000 men, the majority of whom were stated to be Panthays or Chinese Mussulmans. When the place was reached it was found to be abandoned, Sawyannine having taken up his position at the Kachyen village of San-Sain, six miles distant. This village was captured and burned by Major Forrest, who was severely wounded in the fight. A column under Major Greenway reached Mantone from Momeik at the same time as Major Blundell. Sawyannine fled across the Chinese frontier. Major Blundell brought back his force to Bhamo in the middle of March.

The Condition of Burmah.—Considerable material progress has been achieved in Upper Burmah under British rule. The revenue has risen from Rx 501,636 in 1887-'88 to Rx 768,345 in 1888-'89 and Rx 1,012,300 in 1889-'90. The revenue of Lower Burmah, which in 1888-'89 was Rx 2,542,994, rose in 1889-'90 to Rx 3,209,500. The revenue is derived chiefly from the land. In Lower Burmah there is in addition a capitation tax of 24 rupees for every single, and 5 rupees for every married man. In Upper Burmah, in addition to a tax or tithe of 10 rupees on every household, a rent is collected from the state lands, which formerly belonged to the King, and from confiscated lands. The Government proposes to assess all lands, public or private, eventually, and has introduced the system already in one district. In the spring of 1890 a proclamation was issued announcing that in the Shan States, in addition to the tribute, all mines and forests were regarded in the property of the Government. The Tsbawba of Thebaw, whose influence has done more to bring about the submission of the Shan chiefs than the fight-

ing forces of the Government, greatly dissatisfied with this wholesale confiscation, left his post and sent in his resignation. The defection of this useful ally might have serious consequences, and therefore the authorities made some arrangement by which he was induced to withdraw his resignation. For the protection of the lessees of the ruby mines, whose concession covers a tract of eight hundred square miles, embracing the whole region where precious stones have been found except one or two unworked mines on the Irrawaddy, the Government issued regulations prohibiting all persons from mining or selling rubies except the employés of the company. The heavy penalties decreed in the proclamation did not frighten the native miners, who washed out as many rubies as before, which half the population of Mandalay were engaged in smuggling. Consequently the decree was revoked, and the company imposed a license tax of 20 rupees on each miner. Many miners paid this tax, and brought the best rubies to the company's stores for purchase. The company has not yet begun to mine for rubies with hydraulic machinery as is intended.

The revolt of the Burmese people against their conquerors has been extinguished, chiefly as the result of the decree of disarmament. Most of the leaders who held out have been killed, and their bands deported. More than 40,000 rifles, muskets, and shotguns have been given up. A strong protest was raised by the Karens and the American missionaries, who have Christianized them and brought them up to a comparatively high state of civilization, against the application of the arms act to them, as they had never given the Government the least trouble. Dakoity in Burmah has become much less prevalent than before.

The acts of confiscation and tyranny committed by the Government and the abuses of justice perpetrated by the local officials, who are the dregs of the Indian civil service, murily spirits themselves, both ignorant of law and prone to violence, came near kindling anew in 1890 the smoldering embers of rebellion. A. P. MacDonnell, who acted as chief commissioner for the last three months of 1889, and introduced several reforms, recommended the appointment of a judicial commissioner for Upper Burmah to review and correct the irregularities of the magistrates who carelessly dispose of the lives and liberties of the people. Several months later, after several flagrant instances of maladministration had come to light, such an officer was appointed. In the Kyaukse district the police tortured prisoners to extract confessions, the magistrate refusing bail, and kept witnesses illegally in jail until they gave the testimony desired. Persons deported under the village regulations, which permits magistrates to send people from Upper Burmah to the upper Chindwin on suspicion merely of having abetted rebels, were starved by the contractors, who received money from the Government for feeding them.

Boh Yanyun, a rebel chief who been pursued for more than a year by the troops and police, surrendered in the early summer on a promise of pardon given by a subordinate magistrate of Myingyan. The surrender was negotiated through a Buddhist priest. The deputy commissioner re-

puted the promise and, after a hasty and irregular trial, sentenced the man to death, although no charge of dakoity or murder was proved against him. This breach of faith on the part of the Government caused such a storm of indignation among the Burmans that the home Government, on learning the state of feeling, directed Sir Charles Crossthwaite, the Chief Commissioner, to suspend the execution of the sentence. He had been convicted on the charge of rebellion. A new trial having been granted, a new charge was brought against him on account of a murder committed four years before. It having been shown that the local government had official reports proving that the murderer was Bocho, a still uncaptured dakoit chief, the Chief Commissioner ordered the withdrawal of this charge. Yanyun was regarded by the people as a patriot, not as a brigand. When the Chief Commissioner visited Myingyan, the arches erected to welcome him were placarded with prayers for mercy, and 15 petitions praying that Yanyun's life might be spared were presented to Sir Charles Crossthwaite, one of these bearing the signatures of officials of the town and merchants of all nationalities, and another being borne by a deputation of 100 *phoongyees* or Burmese monks. The Judicial Commissioner, Mr. Hodgkinson, after investigating the proceedings, found that no crimes or atrocities were proved against Yanyun, and that the subordinate magistrate had promised positively that his life would be spared, and that, aside from this special pledge, Yanyun came within the proclamation offering amnesty to dakoits.

A general regilding and decoration of pagodas throughout Burmah toward the end of 1890 was interpreted by the authorities as a sign that the people were in an unusual state of excitement and ferment. The Mingeon prince, who escaped in 1889 from Pondicherry to Saigon, was joined there by his family in the summer. It was feared that he contemplated entering Burmah, and the local officers were generally of the opinion that in that case a general insurrection would occur, and that it would be supported by the Buddhist priesthood, because the prince is the undoubted legitimate representative of Alompra. Early in December disturbances occurred in the northern districts, where a rebel chief calling himself the Kanaing prince appeared with a large following at Manwaing. A body of Chinese raiders crossed the frontier at Mitkanas, all work was interrupted in the jade mines, and the district lying between Mandalay and the ruby mines was disturbed.

INDIANA, a Western State, admitted to the Union Dec. 11, 1816; area, 36,350 square miles. The population, according to each decennial census, was 147,178 in 1820; 343,031 in 1830; 685,866 in 1840; 988,416 in 1850; 1,350,428 in 1860; 1,680,637 in 1870; 1,978,301 in 1880; 2,192,404 in 1890. Capital, Indianapolis.

Government.—The following were the State officers during the year: Governor, Alvin P. Hovey, Republican; Lieutenant-Governor, Ira J. Chase; Secretary of State, Charles F. Griffin; Auditor, Bruce Carr; Treasurer, Julius A. Lemeke; Attorney-General, Louis T. Michener; Superintendent of Public Instruction, Harvey M. La Follette; Judges of the Supreme Court, Silas

D. Coffey, John G. Berkshire, Walter Olds, Byron K. Elliott, and Joseph A. S. Mitchell, who died on Dec. 12 and was succeeded by Robert W. McBride by appointment of the Governor.

Population.—The following table exhibits the population of the State by counties, as ascertained by the national census of this year, compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Adams.....	15,885	20,181	4,296
Allen.....	54,763	66,689	11,926
Bartholomew.....	22,777	23,567	1,090
Benton.....	11,108	11,903	795
Blackford.....	8,020	10,461	2,441
Boone.....	25,922	26,572	650
Brown.....	10,264	10,808	544
Carroll.....	15,945	20,021	1,676
Cass.....	27,611	31,152	3,541
Clark.....	28,610	30,259	1,649
Clay.....	25,554	30,596	4,042
Clinton.....	28,472	27,270	8,202
Crawford.....	12,886	13,941	1,055
Davies.....	21,552	26,227	4,675
Dearborn.....	26,611	24,364	• 3,807
Decatur.....	19,779	19,277	• 502
De Kalb.....	20,225	24,307	4,082
Delaware.....	22,926	30,181	7,255
Dubois.....	15,992	20,258	4,266
Elkhart.....	38,454	39,201	7,747
Fayette.....	11,994	12,680	1,236
Floyd.....	24,929	29,458	4,529
Fountain.....	30,228	19,858	• 670
Franklin.....	20,092	18,366	• 1,726
Fulton.....	14,801	10,746	2,445
Gibson.....	22,742	24,920	2,178
Grant.....	28,618	31,498	2,880
Greene.....	22,926	24,879	1,953
Hamilton.....	24,801	26,128	1,327
Hancock.....	17,128	17,929	799
Harrison.....	21,926	20,756	• 750
Hendricks.....	22,981	21,498	• 1,483
Henry.....	24,016	23,779	• 187
Howard.....	19,584	26,186	6,602
Huntington.....	21,505	27,644	5,889
Jackson.....	28,650	24,189	1,089
Jasper.....	9,164	11,185	1,721
Jay.....	19,282	23,478	4,196
Jefferson.....	23,977	24,307	• 1,470
Jennings.....	16,458	14,608	• 1,845
Johnson.....	19,587	19,361	724
Knox.....	26,334	28,044	1,710
Kosciusko.....	26,494	28,645	2,151
La Grange.....	15,630	15,615	• 15
Lake.....	15,091	23,886	8,795
Laporte.....	30,985	34,445	3,460
Lawrence.....	18,548	19,792	1,244
Madison.....	27,527	36,487	8,960
Marion.....	12,782	14,156	8,374
Marshall.....	23,414	23,818	404
Martin.....	13,475	13,978	493
Miami.....	24,088	25,321	1,233
Monroe.....	15,575	17,673	1,798
Montgomery.....	27,816	28,025	709
Morgan.....	18,900	18,643	• 257
Newton.....	8,167	8,803	636
Noble.....	22,956	23,859	403
Ohio.....	5,583	4,955	• 608
Orange.....	14,564	14,678	315
Owen.....	15,901	15,040	• 861
Perry.....	19,460	20,296	836
Perry.....	16,997	18,240	1,243
Pike.....	16,983	18,544	2,161
Porter.....	17,227	19,052	825
Posky.....	20,857	21,529	672
Putnam.....	9,551	11,233	1,382
Randolph.....	22,501	22,835	• 166
Ripley.....	26,435	28,085	1,650
Rush.....	21,627	19,450	• 2,277
Rush.....	19,298	19,634	• 336
Saratoga.....	8,348	7,839	• 509
Shelby.....	25,257	27,454	197
Spencer.....	22,122	22,060	• 62
Starke.....	5,105	7,039	2,234
St Joseph.....	38,178	42,437	9,259
Stevens.....	14,645	14,478	• 167
Sullivan.....	20,816	21,577	1,541
Switzerland.....	13,386	12,514	• 822
Tipton.....	35,966	35,078	• 888

COUNTIES.	1880.	1890.	Increase.
Tipton.....	14,407	18,157	3,750
Union.....	7,673	7,006	• 667
Vanderburgh.....	42,198	59,509	17,311
Vermillion.....	12,025	13,354	1,329
Vigo.....	45,658	50,195	4,537
Wabash.....	25,241	27,126	1,885
Warren.....	11,497	10,955	• 543
Warrick.....	20,162	21,161	999
Washington.....	18,955	18,619	• 336
Wayne.....	85,618	87,628	• 985
Wells.....	18,442	21,514	3,072
White.....	18,795	15,611	1,576
Whitley.....	16,941	17,768	827
Total.....	1,978,301	2,192,404	214,808

* Decrease.

Finances.—There was no increase during the year in the bonded State debt, which remained at \$8,540,615.12; but, as in every year since 1877, the current receipts of revenue were insufficient to meet the expenditures, and the balance of \$974,109.35 in the State treasury at the beginning of the fiscal year had almost disappeared at its close. At the present rate of State taxation for general purposes (12 cents on each \$100) the receipts must continue to fall below the expenditures by \$500,000 annually. Taxation of corporations is recommended by the Governor.

County Debts.—The total debt of Indiana counties for 1890 was \$6,827,674, an increase of \$2,753,220 in ten years. Of this sum \$5,872,956 is a bonded debt and \$954,718 a floating debt. Of the 92 counties, only 18 are out of debt.

Education.—The condition of the common-school funds of the State on June 30 was as follows: Held by counties, June, 1889, \$3,303,148.49; deductions on account of errors in reports, \$530.55; net fund for June, 1889, \$3,302,617.94; from distribution of the proceeds of non-negotiable bonds, \$3,904,783.23; from fines by county clerks, \$32,526.72; from fines by justices, \$35,681.44; from other sources, \$14,435.88; held by counties, June, 1890, \$7,290,003.21; net increase in 1890, \$82,123.49.

The condition of the Congressional Township fund was as follows: Reported held by counties, June, 1889 (corrected), \$2,450,671.79; added by sale of lands, \$11,102.20; total, \$2,461,773.99; value of 1,830 acres of unsold lands, \$32,326.38; total, \$2,494,100.37; increase in Congressional fund, \$11,107.18.

At the State Normal School at Terre Haute, 86 counties were represented by 1,009 pupils during the year ending Oct. 31. The past two years have been the most prosperous in the history of the institution. At Purdue University 439 pupils were in attendance for the year ending June 30, 1889, and 463 pupils for the year ending June 30, 1890.

Charities.—For the year ending Oct. 31, 1889, 189 boys and 159 girls were cared for at the State Institution for the Deaf and Dumb, and 161 boys and 138 girls remained in attendance at the end of the year. There were received during the year for maintenance \$55,000, and expended \$54,999.39; received for repairs \$3,000, expended \$2,998.88. The average number of pupils in attendance was 300, and the net per capita expense, \$180.65. For the year ending Oct. 31, 1890, the total attendance was 355, and there remained at the close of the year 160

boys and 135 girls. The total expenditures for the year were \$57,998.60, and the *per capita* expenditure, \$196.93. The value of real and personal property belonging to the institution Oct. 31, 1890, was \$540,582.62. At the School for Feeble-minded Youth there were 262 pupils on the rolls Nov. 1, 1889. During the year 77 were admitted and 24 discharged, leaving 315 on Oct. 31, 1890. The sum of \$59,346 was expended for maintenance. The Central Hospital for the Insane had 1,487 inmates on Nov. 1, 1889; 664 were admitted during the year ensuing, and 568 discharged, leaving 1,583 on Oct. 31, 1890. The expenditures for the year were \$251,037.44. At the Northern Hospital there were 327 inmates on Oct. 31, 1890.

The attendance of children at the Soldiers and Sailors' Orphans' Home on Oct. 31, 1890, was 574. The school chapel and main building were planned and built with a capacity for 350 pupils, and although the last Legislature passed an act authorizing the building of six cottages, the latter are all full and applications for over 100 soldiers' orphans have already been passed upon, many of whom are now in county asylums. The present indebtedness of the institution is \$13,511.60, brought about by a lack of appropriation to cover actual expenses. The Treasurer's report shows the total disbursements for the year to have been \$72,520.52.

The number of pupils at the Institution for the Blind on Oct. 31, 1889, was 143. The value of real estate belonging to the institution is estimated at \$353,638, and personal property at \$15,364.82, making a total valuation of \$368,202.82. Out of the \$28,000 appropriation for the maintenance fund, \$25,835.45 was expended during the fiscal year 1889.

Prisons.—The annual report of the Woman's Prison and Reform School for Girls for the year ending Oct. 31 shows the following figures: For the prison—convicts on Oct. 31, 1889, 59; received during the year, 23; discharged, 25; remaining on Oct. 31, 1890, 57; for the Reform School—pupils on Oct. 31, 1889, 144; received, 53; discharged, 46; pupils on Oct. 31, 1890, 151. At the Reform School for Boys there were 516 pupils on Oct. 31, 1890.

The daily average number of convicts in the Southern State Prison for the year was 569, and the average *per capita* cost \$121.40. In the Northern State Prison the daily average for the year was 751 prisoners.

Agriculture.—The State Bureau of Statistics reports the following for 1890:

Wheat—Number acres sowed, 2,821,129; product in bushels, 28,352,346; total value of crop, \$26,084,153.

Corn—Number acres planted, 3,446,439; product in bushels, 87,092,513; total value of crop, \$43,546,256.

Oats—Number acres sowed, 1,019,398; product in bushels, 15,556,207; total value of crop, \$7,316,117.

Barley—Number acres sowed, 22,745; product in bushels, 387,805; total value of crop, \$232,681.

Rye—Number acres sowed, 58,785; product in bushels, 784,191; total value of crop, \$470,575.

Buckwheat—Number acres sowed, 6,388; product in bushels, 86,916; total value of crop, \$47,804.

Flaxseed—Number acres sowed, 12,097; product in bushels, 69,839; total value of crop, \$112,299.

Clover hay—Number acres sowed, 1,196,040; product in tons, 2,057,183; total value of crop, \$16,457,504.

Timothy hay—Number acres sowed, 1,242,627; product in tons, 2,112,457; total value of crop, \$23,287,027.

Irish potatoes—Number acres planted, 80,747; product in bushels, 2,688,875; total value of crop, \$2,285,544.

Sweet potatoes—Number acres planted, 2,645; product in bushels, 158,700; total value of crop, \$190,440.

Clover seed—Product in bushels, 265,924; total value of crop, \$907,215.

Timothy seed—Product in bushels, 39,081; total value of crop, \$48,851.

For 1889 the figures of the Bureau were as follows:

Wheat, 41,541,570 bushels, raised upon 2,773,883 acres; corn, 106,542,161 bushels; oats, 28,710,935 bushels; barley, 416,325 bushels; rye, 871,216 bushels; buckwheat, 89,754 bushels; clover seed, 253,728 bushels; timothy seed, 33,449 bushels; clover hay, 2,349,528 tons; timothy hay, 1,823,047 tons; Irish potatoes, 7,783,267 bushels, raised on 79,213 acres; sweet potatoes, 194,040 bushels, raised on 2,772 acres.

Coal.—The output of coal in the State during 1890 exceeded that of 1888 by 573,500 tons. There were seven fatal and fifteen serious accidents in the Indiana mines during the year. The total number of men employed in the 77 mines was 6,550. The estimated capital employed was \$2,081,000, and the estimated output 8,676,000 tons.

Decision.—On Nov. 15 the State Supreme Court rendered a decision in the case of State vs. Klein, declaring the unconstitutionality of the law requiring all meat sold in the State to be inspected in the State before being butchered. The court regarded such an act as a plain interference with interstate commerce.

Political.—A convention of the Prohibition party met at Indianapolis on Feb. 20 and nominated the following State ticket: For Secretary of State, Barzillai M. Blount; for Auditor, Abraham Hintzinger; for Treasurer, John E. Branson; for Attorney-General, Sumner Haynes; for Superintendent of Public Instruction, Leander M. Christ; for Clerk of the Supreme Court, Charles L. Jessup; for Judge of the Supreme Court, S. J. North. The platform contains the usual resolutions against the sale and use of liquor, favors woman suffrage, a tariff for revenue only, the passage of a service pension bill, the suppression of trusts, the apportionment of the public-school revenue on the basis of attendance rather than school population, and the letting of public printing to the highest bidder.

The Democratic Convention met at Indianapolis on Aug. 28. Its nominees were: For Secretary of State, Claude Matthews; for Auditor, J. O. Henderson; for Treasurer, Albert Gall; for Attorney-General, Alonzo G. Smith; for Judge of the Supreme Court, Joseph A. S. Mitchell; for Clerk of the Supreme Court, Andrew M. Sweeney; for Superintendent of Public Instruction, Harvey D. Vories; for State Geologist, Sylvester S. Gorby; for Chief of the Bureau of Statistics, William A. Peelle, Jr. A platform was adopted.

The platform demands free coinage, of silver, favors the election of United States Senators by the people, and contains the following on local questions:

We denounce the conspiracy of certain Republican State officials and newspapers to destroy the State

credit for partisan purposes by disseminating false statements as to her financial condition and resources. Indiana is not bankrupt. Her taxes are low, and her debt is not oppressive, and for every dollar of it she has more than value received in the great public institutions.

We applaud the eight-hour law, and the law prohibiting "blacklisting," the law prohibiting "pluck-me" stores, the laws for the protection of coal miners, the law prohibiting the importation of Pinkerton detectives, and the repeal of the Republican intimidation law of 1881.

We are in favor of arbitration as the only just and fair method of settling labor controversies, and we demand of the next Legislature the passage of a law creating a permanent tribunal of arbitration for that purpose.

On Sept. 10 the Republican Convention met at Indianapolis and made the following nominations: For Secretary of State, Milton Trusler; for Auditor, Ivan N. Walker; for Treasurer, George W. Pixley; for Attorney-General, John W. Lovett; for Judge of the Supreme Court, Robert W. McBride; for Clerk of the Supreme Court, William T. Noble; for Superintendent of Public Instruction, James H. Henry; for Chief of Bureau of Statistics, John Worrell; for State Geologist, John M. Coulter. The resolutions treated of State issues at great length and included the following:

We favor protection against every form of convict or servile labor, prohibition of the employment of young children in factories and mines, protection of railroad employes by requiring the adoption of a uniform coupler, protection of employes engaged in factories and mines or other hazardous occupations from every danger that can be removed or diminished, the adjustment of differences between employer and employee by arbitration, and such legislation as may be needed to facilitate and protect organizations of farmers and wage laborers for the proper and lawful promotion of their mutual interests.

We demand that our benevolent institutions be placed above the level of partisan politics and that they be controlled by boards composed of members of different political parties, appointed by the Governor, to the end that the cost of their maintenance may be reduced and the helpless and unfortunate wards of the State may not be made the victims of unfit appointments dictated by the caucus and made as a reward for party services.

We denounce all attempts to correct supposed evils by the lawless acts of mobs, commonly called White Caps, as unworthy of a civilized State. We favor such legislation as will aid the Executive and local authorities in exterminating such evils.

We believe that all State officers who serve the whole people should be elected by them as soon as appointments made by the Executive under the Constitution expire, and favor such an amendment to the national Constitution as will extend the same method to the election of United States Senators.

We believe that the making of public improvements and other purely business affairs of our larger cities can be best and most economically managed by non-partisan boards, and that such boards should be appointed by the mayor of the city they are to serve.

The better to secure the savings of our people so largely invested in building associations, we favor legislation requiring foreign associations and those organized in other States to make proper proof of their solvency, furnish ample security, and pay a reasonable license fee for the privilege of doing business in the State.

To the end that free schools may accomplish a more perfect work and extend the inestimable benefits of education still further, to free school houses and free tuition we would add free text-books.

We are opposed to any interference with the rights now conceded to citizens maintaining private and parochial schools.

On Sept. 30 a convention of delegates, representing the former Greenback-Labor party, the Farmers' Mutual Benefit Association, the Farmers' Alliance, the Grange, and other farmer organizations, political and otherwise, assembled at Indianapolis to form a new party in the interest of the agricultural classes. "The Peoples party" was the name adopted. The following ticket for State officers was nominated: For Secretary of State, Leroy Templeton; for Auditor, James M. Johnson; for Treasurer, Isaiah N. Miller; for Attorney-General, William Patterson; for Judge of the Supreme Court, John S. Bender; for Clerk of the Supreme Court, Benjamin F. Street; for Superintendent of Public Instruction, William Whitney; for Chief of Bureau of Statistics, John W. Shockley; for State Geologist, Edward S. Pope. The platform included the following:

We view with alarm the fact that, notwithstanding the heavy burdens of the tax-payers, the debt of the State is steadily increasing.

We favor the issuing of a full legal-tender paper money to meet the disbursements under these bills, thereby enabling the Government to maintain its honor and pay its debts, and at the same time aid the people by giving them a sufficient volume of money to meet the demand of the legitimate trade interests of the country. Our Government paid the soldiers in paper money during the war, and the veterans will now gladly accept it in payment of their just demands.

We demand a just and equitable redistricting of the State so as to secure to the people a fair representation in the legislative halls of both State and nation, and thus correct the flagrant infringement on the expressed will of the people in previous State elections.

We endorse the farmers' convention which met at the State Capitol on June 19, 1890.

We favor the repeal of the law now in force in this State allowing counties, townships, and cities to vote taxes on the people for building railroads for corporations.

We are opposed to the competition of the present contract-labor law as now practiced.

We are in favor of changing the law exempting property from levy and sale upon execution, so that when judgment is for unpaid wages no property shall be exempt.

In the ticket several changes were subsequently made, among others the name of Martin V. Kindle being substituted for that of Leroy Templeton. At the November election the Democratic ticket received a considerable plurality. For Secretary of State the vote was: Matthews, 233,881; Trusler, 214,302; Kindle, 17,354; Blount, 12,106; a plurality of 19,579 for Matthews. The pluralities of the other Democratic candidates varied from 16,501 for Treasurer to 21,252 for Justice of the Supreme Court. Members of the Legislature were chosen at the same time as follow: Senate, Democrats 35, Republicans 15; House, Democrats 71, Republicans 29. Of the 13 members of Congress, the Republicans elected only 2.

INDIAN MESSIAH. The special belief of a divine Saviour sent to rescue humanity from its oppressions repeats itself in the history of many religions. Its latest manifestation is among the Indians of North America. Suddenly has arisen a confident belief, which is widespread and per-

vades every class among these people, that a Messiah will soon appear among them to restore their lands, which have been acquired by the United States Government in many cases by arbitrary seizure or else by purchase in which the promised compensation was never paid. A belief in a divine interposition in behalf of the aborigines has previously appeared among the Indians. It is said that Elskwatawa, the "prophet" brother of the great Tecumseh, preached a war of extermination against the whites, and told the story of a coming Messiah who would lead the Indians to assured victory. A similar belief prevailed among the Sacs and Foxes, and before the battle of the Bad Axe, in Wisconsin, in August, 1832, Black Hawk assured his followers that the Great Spirit would send a Messiah to them who would lead them to success in the struggle for the recovery of their lands. More recently other prophets have told of a time in the near future when the wrongs of the red men would be righted by the interference of the Great Spirit.

During the summer of 1890 vague reports began to reach the East of an outbreak among the Indians that was soon to occur. At first these rumors were denied by the authorities in Washington, but they persisted until positive information of the ghost dances, the so-called "Messianic craze," and the concentration of the Indians was received. Early in December Gen. Nelson A. Miles said: "The danger of the situation in the Dakotas has not been exaggerated. The disaffection is more widespread than it has been at any time for years. The conspiracy extends to more different tribes that have heretofore been hostile but that are now in full sympathy with each other and are scattered over a larger area of country than in the whole history of Indian warfare. It is a more comprehensive plot than anything ever inspired by Tecumseh or even Pontiac. The causes of the difficulty are easy of discovery. Insufficient food supplies, religious delusion, and the innate disposition of the savage to go to war must be held responsible."

Also concerning their numbers the same authority then said: "Altogether there are in the Northwest about 30,000 who are affected by the Messiah craze; that means fully 6,000 fighting men. Of this number at least one third would not go on the warpath, so that leaves us with about 4,000 adversaries. There are 6,000 other Indians in the Indian Territory who will need to be watched if active operations take place."

Besides the agitation in North Dakota the Messiah craze prevailed in the Indian Territory, where the Cheyenne, Arapahoe, Osage, Missouri, and Seminole tribes took part in the dances. The leader of the Indians was supposed to be Sitting Bull, of the Sioux tribe, who took advantage of the craze to influence the Indians against the whites. In this he was aided by the policy of the Interior Department in failing to fulfill its contracts. Thus from South Dakota came the following: "The 1,200 Indians on the Sisseton and Wahpeton reservation are on the verge of starvation at the opening of winter, because of the Government's failure to furnish them with rations. The Interior Department has authorized the expenditure of \$2,000 for the relief of the red men, but upon this small sum of

money over 1,200 men, women, and children must live for a period of six months of rigorous winter. This is less than one cent a day for each person. Chief Renville and all the other able-bodied Indians on the reservation have addressed a petition to the Government as follows: 'We appeal to the authorities at Washington and our friends everywhere in the East to aid us as far as it be in their power. Unless we are helped in some way, great suffering and starvation will be inevitable.'"

Active measures were at once taken by the War Department, and Gen. Miles perfected a plan by which that portion of the country was entirely hemmed in by soldiers.

The links in this chain of military posts are around by the east to North Rosebud, Lower Brulé, Fort Sully, and Cheyenne River post, and by the west to North Oelrichs, Fort Mead, and Standing Rock, forming a circle with Fort Robinson on the southwest and Fort Niobrara on the southeast as supply stations and bulwarks to the entire scheme. The affair culminated in the arrest of Sitting Bull at his camp on Grand river about forty miles from Standing Rock, N. D., by the Indian police on Dec. 15. An attempt at his rescue terminated in a fight in which Sitting Bull, his son Black Bird, Catch Bear, and other Indians, together with several of the Indian police, were killed. This incident brought the trouble to an apparent close.

As to the origin of the belief in an Indian Messiah there are several accounts. One of these, obtained from one of the missionaries among the Sioux, a man of thorough education and of Indian descent, is as follows: A young man of one of the tribes in the Northwest dreamed one night that the son of the Great Spirit appeared to him and told him to seek out among his comrades a number of the young men of correct habits. With these he was told to make a journey through his own country, then through a territory not known to him, and on until he reached the great sea. The route that he was to follow was clearly indicated in the dream. The summons was not one that he dared to disregard, and seeking out among his tribe several young men he made ready for the journey. Among those who seemed very desirous of going was a youth who was considered foolish, but as he promised to behave himself he was permitted to join the party. After proper preparations the start was made, but before they had gone very far the young man whom they had doubted produced a bottle of fire-water, and in spite of their remonstrances proceeded to drink. Ignoring all their requests to stop, he continued with them till evening and then of a sudden fell over as if dead. A feeling of awe came over the party, and they were afraid lest the Great Spirit was offended and had punished them for not being more careful in choosing their associates. At first they were uncertain as to whether their comrade was really dead, and so they waited for several days or until his death was evident, and then they laid the body on the ground and covered it with a great pile of stones, for they were too far from their home to return with the remains. Then resuming their journey, they reached the unknown country, through which they passed successfully, for, as if by divine in-

terposition, their leader recognized the way he had seen in the vision (and, according to another version, "at each camping-place they were supplied with water from a little pool that came out of the ground and furnished just enough for their needs and no more"), and at last the "great sea" was reached. When they awoke on the following morning a strong light seemed to come to them across the water, and dimly they saw the outline of the Great Spirit in the luminous mass. As they watched it they saw the Son of the Great Spirit coming toward them. The light dazzled their eyes, but as the Son approached they grew better able to see until they distinguished a man with all the external features of Jesus Christ as described in the New Testament. The places where the nails had pierced the hands and the feet, and the spear marks in the side, were there. As he came nearer, gliding as it were along the surface of the water, they saw that he was accompanied by the form of their associate whom they had buried on the way. When the figure came within speaking distance, he asked them to come out to him, but as they were afraid to do so, he came close to the shore. Then addressing them he said that he had long sympathized with them in their oppressed condition, but that this earth was only a place of preparation from which those who were faithful to him would be taken to a better home after death. For some time he continued to talk to them, advising them as to their conduct and behavior, and, above all, not to attempt a war against the whites. Finally, he said: "In order that you may have some token that I am the Son of the Great Spirit, I have brought back to you your associate, whom I now restore to you. That he did wrong is true, but his sin was one of ignorance, and I have forgiven him. Return to your homes, tell your friends what you have seen, and assure them of my interest in them." As he finished speaking the young man came to them, and at first they were afraid of him, but soon they touched him and found that he was alive. Then they shook hands with him and welcomed him back. When they turned to thank their benefactor the apparition had vanished and they saw nothing but space and heard nothing but the ceaseless moan of the waves as they dashed on the sands of the beach. Such was the original version as told last summer, but since then many modifications of it have appeared in the newspapers. The "great sea" is said to have been Salt Lake, and the Son of the Great Spirit is said to be a Mormon, who assumed the appearance of Christ in order to convey to the whites a belief in the truth of the vision. Some accounts say his name is "Prophet John" and that for the past four or five years he has been preaching a similar doctrine to tribes in the Dakotas and Idaho. He belongs to one of the bands in Utah, and "his doctrines have doubtless been liberally tinged with the dreamy and unrealistic theology of the Mormon preachers, among whom he dwelt for many years. He speaks the dialect of most of the tribes of the Northwest, and for a time seemed to sway the Indians with even more power than most of their chiefs." It is also said that an Indian called Johnson Sides, known as the "Peace-maker" among the Indians and whites in Ne-

vada, had acquired a knowledge of the Bible and acted as a missionary among his people. He taught the members of his tribe the story of Christ or the Messiah, and that the time would come when he would again visit the earth, "as it had been taught him by Christian people interested in his welfare." He told visiting Indians of the paradise in store for all people when the Son of God shall once more visit this earth, and the Indian's paradise is whatever his imagination may lead him to believe, the same as a white man. A similar version is the one coming from "Stephen, the Preacher," who acquired his information from "Prophet John." He preached a new religious crusade, and announced to the Indians that he had received direct communications from the Great Spirit and that he had visions. He established certain places of pilgrimage for his followers, and even now in Utah, Wyoming, Idaho, and Montana the places where he declared that he had seen visions are regarded as sacred by the Indians. His sermons all foretold the coming of a Messiah whose advent was close at hand and who would lead his red children to certain victory over their white invaders. It is claimed that "no man in the Northwest is more responsible for the present religious craze than this wild-eyed preacher who goes about from tribe to tribe, and who has never been known to eat or sleep in any man's tent." By some it is asserted that the name of the person preaching the doctrine of a Messiah is "Isidor Cohen, who was known throughout southern Colorado as 'Nosey' Cohen, a leader well acquainted with their tongues and customs." From Nevada the story comes that the prophet resides in Mason valley, Esmeralda County, Nevada, near Walker river reservation. His name is Capt. Jack Wilson, known among all Indians by the names of We-Vo-Kar and also Co-We-Jo. He is an intelligent, fine-looking Indian of about thirty-five years of age, who goes into trances, or seemingly so, from twelve to fourteen hours, in the presence of large numbers of Indians. Upon his recovery he relates to them what he has seen. He tells them he has been to heaven, and that the Messiah is coming to the earth again and will put the Indians in possession of this country; that he has seen in heaven many Indians, some of whom are dressed in the white man's clothes. He counsels the Indians not to disturb the white folks, saying that the blanket or rabbit skin that was put over the moon by the Indians long ago will soon fall off, and then the moon, which is now afire, will destroy the white people.

In obedience to orders from Gen. John Gibbon, an Indian scout was sent to Walker's Lake, in Nevada, and talked with the Pintes, who told him the Messiah had been receiving visits from all the tribes in the West. He found the Messiah at the west fork of Walker river, in Nevada, and describes him as follows:

"The Messiah," Queetize Ow, as he gives his name, "is a full-blooded Pinte Indian, and has always been peacefully disposed. He spoke freely of his call to preach. His first experience with the Almighty, he said, was one afternoon while hunting. Hearing a noise, he went to learn its origin, when he was thrown to the ground from some unknown cause. He was then taken to

heaven, and there saw all the whites and Indians who had lived and died upon earth. He was afterward brought back to the earth, to the same spot where he had fallen dead. God told him he had been looking for a mortal whom he could intrust with a mission to reform the world, and had decided on Queetize Ow. Having been informed of his mission, he set out to perform it. He taught the Indians that they should work and avoid fighting except in self-defense. Last summer the Indians told him that unless it rained soon the crops would fail. He told them to go home, and in three days an abundance of rain fell. Queetize got his ideas from a religious family with whom he had lived."

Lieut. Marion P. Maus, U. S. A., writes concerning the Messiah that Porcupine seems to be the great apostle. Of the circumstances of his journey in company with some Bannocks and Shoshones, he says: "He undoubtedly went to Salt Lake, traveling by rail, and then by wagon, until he reached tribes there who belong to the fish-eating class of Indians, who largely live west of the Rocky mountains, and are much more civilized than those on this side. Here, he claimed, he met several hundred Indians in white men's dress—fifteen or sixteen tribes from the east side of the Rocky mountains were represented—and here he claims to have received a message from the Messiah, saying the Indians should wait fourteen days, when he would appear to them. They also received a white nut which they were directed to eat. After waiting as directed, suddenly a great crowd of Indians and whites appeared unto them, and the Christ was among them. His head was bowed, and he appeared, to Porcupine's astonishment, an Indian, for, he says, 'I always believed that Christ was a white man.' The Christ said: 'I have sent for you, and am glad to see you. I am going to talk to you about your relatives who are dead and gone. My children, I want you to listen to all I have to say to you. I will teach you how to dance a dance, and I want you to dance it. Get ready for your dance, and then, when the dance is over, I will talk to you.' Then they danced, the Christ singing. They danced until late, when he said it was enough. 'The next morning,' Porcupine continues, 'I saw Christ again, and this time he looked different; he was not as dark as an Indian, nor as light as a white man. He had no beard, but very heavy eyebrows. He was a good-looking man. We were told not to talk; and even if we whispered, Christ would hear us. He talked to us all day, and began to sing, and then trembled all over violently for a while, and afterward sat down. We danced all night, the Christ lying down as if he were dead. The next morning, when we met again, the Christ was with us. He said: "I am the man who made everything you see around you; I am not lying to you, my children. I made this earth, and everything on it. I have been to heaven, and seen your dead friends, and have seen my own father and mother. In the beginning, after God made the earth, they sent me back to teach the people; and when I came, the people were afraid of me, and treated me badly. This is what they did to me" (showing his scars). "I did not try to defend myself. I found my children were bad, so went back to heaven, and

left them. I told them in so many hundred years I would come back to see my children. At the end of this time I was sent back to try to teach them. My father told me the earth was getting old and worn out, and the people getting bad; that I was to renew everything as it used to be, and make it better." He said the dead would arise, and the earth, which was too small for them, would be enlarged, and he would do away with heaven, and make the earth big enough for all of us; that we must all be friends. In the fall of the year the youth of each one would be renewed if he remained good, and no one would ever get over forty years old. I have returned to my tribe," said Porcupine, "to tell all this. The Christ said we must tell it to every one." In his statement Porcupine says nothing of the destruction of the whites. But it must be remembered he was talking to an army officer who had with him three troops of cavalry. Red Cloud, who heard the story from the apostles who claimed to have seen the Messiah, said, 'If it was true, it would spread all over the world'; but wisely remarked, 'If it was not true, it would melt away like the snow under the hot sun.' Little Wound, who also claims to have seen Christ when he appeared at the Shoshone camp, describes him as sitting under a *wickiup* (the name for a shelter made of boughs in the shape of an Indian tent, or *teepee*). 'The Messiah had long hair down to his shoulders, and when I first saw him he seemed about twenty years old; the next day he appeared thirty; the next forty; and the next an old man. He said, "Come with me, and I will show you your dead relatives"; and suddenly I heard a noise like that of a railroad train. I was carried through the air, and came to a field with a small house on it. I went in, and there was my mother and father and brother who had died long ago. My brother and father were killed years ago fighting the white man. They came up to me crying, and I shook hands with them.' Sitting Bull's statement how he met the Messiah is suggestive of the teaching received from missionaries. He describes a star he saw while he was hunting, which he followed unconsciously. Then he came upon a large number of Indians, including many of his old friends who had been killed in various fights with the white men. Black Kettle, who was killed by Gen. Custer, he mentions especially as being among them. They were all arranged in a large circle, and were dancing the ghost dance. A man came to him, who he afterward found was the Indian Messiah. He shook Sitting Bull by the hand, and said, 'What would you like to eat?' Sitting Bull said he would very much like some buffalo, as it had been a very long time since he had eaten buffalo. The Messiah waved his hand, and a herd of buffalo appeared, and he went out and killed one."

Another account tells how the Messiah will put all the Indians behind him and the whites in front of him. He will then roll a stratum of ground over the earth burying the white man and all his works beneath. Then there will appear a hunting-ground filled with game, into which he will lead the Indians.

The belief as taught by the Indians seems to have included the necessity of dancing, and it

was said that during one of these dances the Messiah would appear. Accordingly, this ghost dance or Christ dance was inaugurated, and continued without interruption during the night, although in the daytime it was varied with the old-time war dances. Little Wound wrote to the reservation that "Our dance is a religious dance, and we are going to dance until spring. If we find then that Christ does not appear we will stop dancing." Of the dance itself, the Protestant Episcopal Bishop of South Dakota, the Rev. William H. Hare, says: "The devotees of these ideas are dressed in their exercises in special garb (a shirt made of calico and worn like a blouse, called by them 'the hole' or 'mysterious shirt,' being its chief feature), and amid harangues from their leaders and songs in which they cry, 'The buffalo are coming,' the people form rings by joining hands and whirl themselves round and round in wild dances until they fall to the ground unconscious. They are then said to be dead. Their leaders promise that while in this state they will be transported to the spirit world, and will see their friends who have died and the Son of God, and, accordingly, when they recover consciousness, they will tell of the strange visions they have enjoyed."

Another authority says: "This sacred dance is probably in honor of the dead braves who will soon return to life, and many undoubtedly believe that they may appear at any moment. Arranged in a circle, about three hundred of them, alternately a man and a woman, they go round and round ever in the same direction, while the air is filled with a dirge-like chant of a graveyard significance. Now and then one falls down exhausted in a death-like swoon, and is rapidly carried away. In this swoon, it is claimed, the Indian sees and communes with the Messiah and learns his wishes and what is to come to pass." It is said that among the Sioux Indians "the dancers had their medicine men concoct the preparation with which the braves of Gen. Custer's time always saturated their shirts preparatory to going to war. This mixture is supposed by the Indians to ward off bullets. After the fluid of supposedly wonderful charm had been mixed, a war shirt was dipped into it and then put on one of the braves. The wearer of the charmed raiment jumped into the midst of the dancers and called upon them to fire at him. They complied, and at the first shot the Indian who had on the 'bullet-proof' shirt fell mortally wounded."

From Pine Ridge Agency the following story comes: "At last Friday's dance one of the braves was to go into a trance, and remain in this condition four days. At the close of this period he was to come to life as a buffalo. He would still have the form of a man, but he would be a buffalo. They were then to kill the buffalo, and every Indian who did not eat a piece of him would become a dog. The man who was to turn into a buffalo was perfectly willing, and I suppose that they have killed and eaten him by this time."

One authority says: "The Indians do not telegraph nor write letters. They can not communicate except by carriers; yet we find all the Western tribes, from the coast to the Mississippi and from British Columbia to Arizona, dancing

the ghost dance and looking for the coming of a great leader." It has also extended to Mexico. All the Aztec tribes scattered throughout that country are believers that a Messiah is soon to appear to free them from their foreign conquerors and restore to them their domain and their pristine glory. At Cholula are the ruins of an old Aztec temple. This is the Mecca of the believers in the Messiah, and there are now encamped about it hundreds of Aztecs who are engaged in performing all sorts of mysterious religious rites. Of these rites of old a human sacrifice was part, accompanied with a flower dance. The sacrifice has been done away with, and now only the dance remains. The Aztec prophecy is very similar to that which is believed in by the Sioux. The Messiah, they profess to believe, will cause the volcano Popocatepetl to erupt and overflow the whole country with lava, which will destroy all the inhabitants except the Aztecs.

Its influence has also extended among the Southern negroes, and from Kansas City, Mo., the following comes: "The negroes have been led astray by a voodoo doctor, who came here from Bismarck, N. D. He proclaimed that he was the courier of the Messiah, and that dances must begin at once. Upon the very night of his arrival a few negroes began their dance in a little cabin, and on the following night the building would not hold the converts to the new faith."

IOWA, a Western State, admitted to the Union Dec. 28, 1846; area, 56,025 square miles. The population, according to each decennial census since admission, was 192,214 in 1850; 674,913 in 1860; 1,194,020 in 1870; 1,624,615 in 1880; and 1,911,896 in 1890. Capital, Des Moines.

Government.—The following were the State officers during the year: Governor, Horace Boies, Democrat; Lieutenant-Governor, Alfred N. Poyneer, Republican; Secretary of State, Frank D. Jackson; Auditor, James A. Lyons; Treasurer, Voltaire P. Twombly; Attorney-General, John Y. Stone; Superintendent of Public Instruction, Henry Sabin; Railroad Commissioners, Frank T. Campbell, Spencer Smith, and Peter A. Dey; Chief Justice of the Supreme Court, Josiah Given; Associate Justices, James H. Rothrock, Gifford S. Robinson, Joseph M. Beck, and Charles T. Granger. Gov. Boies and Railroad Commissioner Dey are the only Democrats in the list.

Finances.—The State treasury is now more than able to meet current demands, the floating debt of the past few years having practically disappeared. On June 30 the total cash in the treasury was \$261,806.80, and there were warrants outstanding to the amount of \$69,169.75, indicating a net surplus of nearly \$200,000. The only bonded State debt is one of \$245,345.19 due to the State school fund.

Valuations.—The assessed valuation of personal property in 1890 was \$105,543,264, an increase for the year of \$1,979,128. These figures include 3,141,445 cattle, valued at \$22,342,478; 1,032,436 horses, valued at \$27,324,838; 43,406 mules, valued at \$1,195,696; 280,050 sheep, valued at \$334,447; 2,850,046 swine, valued at \$4,699,893. The rate of State taxation for the year was 2-5 mills on the dollar.

Population.—The following table exhibits the population of the State by counties, as deter-

mined by the national census of this year, compared with similar returns for 1880.

COUNTIES	1880.	1890.	Increase.
Adair	11,667	14,564	2,867
Adams	11,888	12,392	404
Allamakee	19,791	17,907	* 1,884
Appanoose	16,686	15,961	725
Audubon	7,448	12,412	4,964
Benton	24,888	24,178	* 710
Black Hawk	28,913	24,719	8,06
Boone	20,888	22,772	2,084
Bremer	14,051	14,680	549
Buchanan	18,546	18,997	451
Buena Vista	7,587	18,548	6,051
Butler	14,298	15,463	1,170
Calhoun	8,595	13,107	7,512
Carroll	12,851	18,828	6,477
Cass	16,943	19,645	2,702
Cedar	18,986	18,258	* 688
Cerro Gordo	11,461	14,464	3,403
Cherokee	8,240	15,639	7,419
Chickasaw	14,354	15,019	485
Clarke	11,513	11,382	* 181
Clay	4,248	9,269	4,021
Clayton	2,829	26,783	* 2,096
Clinton	36,763	41,199	4,436
Crawford	12,413	18,804	6,481
Dallas	18,746	20,479	1,733
Davis	16,468	15,258	* 1,210
Decatur	15,886	15,618	307
Delaware	17,950	17,849	* 601
Des Moines	88,099	85,324	2,225
Dickinson	4,921	4,928	2,497
Dubuque	42,996	49,818	6,822
Emmett	1,550	4,274	2,724
Fayette	22,258	28,111	883
Floyd	14,617	15,424	717
Franklin	10,219	12,771	2,622
Freemont	17,052	16,842	* 810
Greene	12,727	15,797	3,070
Gundy	12,619	18,215	576
Guthrie	14,374	17,580	2,906
Hamilton	15,272	15,319	4,067
Hancock	8,458	7,621	4,468
Hardin	17,807	19,008	1,196
Harrison	16,649	21,356	4,707
Henry	20,986	18,895	* 2,091
Howard	10,887	11,182	845
Humboldt	5,411	9,884	4,495
Ia	4,882	10,705	6,823
Iowa	19,221	18,270	* 951
Jackson	28,771	22,771	* 1,000
Jasper	25,968	24,043	1,920
Jefferson	17,469	15,184	* 2,285
Johnson	25,429	13,082	* 2,347
Jones	21,052	20,288	* 819
Keokuk	21,258	28,862	2,604
Kossuth	6,178	18,120	6,942
Lee	34,859	37,715	2,856
Linn	37,237	45,368	8,066
Louis	18,142	11,873	* 1,269
Lucas	14,590	14,563	33
Lyon	1,968	8,650	6,712
Madison	17,224	15,977	* 1,217
Mahaska	23,202	28,805	3,603
Marion	25,111	28,058	* 2,938
Marshall	28,752	25,812	2,090
Mills	14,187	14,548	411
Mitchell	14,363	18,299	* 1,064
Monona	9,055	14,515	5,460
Monroe	18,719	18,666	* 53
Montgomery	15,895	15,548	* 47
Muscatine	23,170	21,564	1,884
O'Brien	4,155	18,060	8,905
Oceola	22,219	5,574	8,355
Page	19,667	21,341	1,674
Palo Alto	4,181	9,918	5,187
Plymouth	8,566	19,568	11,002
Pocahontas	3,718	9,538	5,840
Polk	42,395	65,416	23,015
Pottawattamie	39,850	47,889	7,580
Poweshiek	18,356	18,556	* 542
Ringgold	12,085	15,222	1,471
Sac	8,774	15,222	5,748
Scott	41,266	43,164	1,898
Shelby	12,696	17,611	4,915
Sioux	5,426	18,370	12,944
Story	16,906	15,127	1,221
Tama	21,785	21,651	66
Taylor	15,635	16,384	749

COUNTIES.	1880.	1890.	Increase.
Union	14,980	16,900	1,920
Van Buren	17,043	16,258	* 790
Wapello	25,285	30,426	5,141
Warren	19,578	15,269	* 1,809
Washington	39,974	18,468	* 1,906
Wayne	16,127	15,670	* 457
Webster	15,951	21,682	5,731
Winnebago	4,917	7,325	2,408
Winneshek	23,938	22,524	* 1,410
Woodbury	14,956	55,682	40,686
Worth	7,958	9,247	1,284
Wright	5,062	12,067	6,995
Total	1,624,615	1,911,596	287,281

* Decrease.

County Debts.—The total debt of Iowa counties for 1890 was \$3,643,814, of which all but \$426,963 was a bonded debt. The increase of the total debt in ten years has been only \$571,241. Of the 99 counties in the State, 36 are without debt.

Legislative Session.—The twenty-third General Assembly convened for its regular session on Jan. 13. A prompt organization of the Senate was effected, the Republicans having a majority of six in that body; but the House was not permanently organized for more than five weeks. This delay was caused by the presence in the latter body of two factions, each having fifty votes (the Republicans on one side and an alliance of Democrats, Union Labor men, and Independents on the other side) neither of which was willing to concede the speakership to the other. On the first day of the session conference of the two factions agreed upon a basis for temporary organization, which conceded the Republican claim to the speakership, but the Democrats and their allies in caucus refused to ratify the agreement and would accept no compromise that did not concede that office to them. Nearly 100 ballots were taken without result for a temporary clerk, the first officer to be chosen, before either side weakened. On Jan. 27 an agreement was reached, by which the Democrats named the temporary Speaker and the Republicans the temporary clerk, and the minor officers were equitably divided. The following was an important part of the agreement:

That at no time from the acceptance of this proposition to the final adjournment of the House of said twenty-third General Assembly, and at no time during the session of said House, will either party prevent from voting, unseat, or offer or consider any proposition to unseat any one whose name appears on the list prepared by the Secretary of the State of Iowa, and now in use in the roll calls of this body, on account of any objection to the apportionment act of the twenty-third General Assembly, creating the district from which he was elected.

The temporary organization was no sooner complete than a similar contest began over permanent officers. Having yielded once, the Republicans were in no mood to concede the permanent speakership to their opponents. Negotiations were without avail, and ballot after ballot was taken without result. Finally, on Feb. 19, after half the session had been wasted and the pressure of public business demanding attention could no longer be resisted, another agreement was made, in which the Republicans again yielded the principal office to their opponents, obtaining in return the clerkship, nearly

all of the minor offices, and a majority of the committees. The details of this agreement are as follow :

The Democrats to have the Speaker and second assistant clerk.

The Republicans to have the Speaker *pro tem.*, chief clerk, engrossing clerk, enrolling clerk, file clerk, bill clerk, and postmistress, sergeant-at-arms, doorkeeper, six assistant doorkeepers, two janitors.

That the Republicans shall have first choice of standing committees and choose five committees, the Democrats shall have second choice and choose one committee. The Republicans have third choice and choose one committee. The remaining committees to be chosen alternately, until all committees are exhausted. The Republicans to have a majority of and including the chairman in all committees chosen by them; the Democrats to have a majority of and including chairmen of all committees chosen by them.

The Republicans shall have the right to name the chairmen of the committees chosen by them and the share of the membership of all the standing committees to the Speaker, and he shall respect the designation so made by them and make up and announce said standing committees accordingly.

All visiting and investigating and special committees shall be equally divided unless otherwise agreed upon, and the Speaker shall so appoint said committee.

There shall be thirty committee clerks, one half of which shall be named by the Republicans and one half by the Democrats, each party to designate which committee, chosen by them, shall be clerks.

The choosing and division of the standing committees as aforesaid shall be made by a committee of six members, three of which shall be chosen by the Republicans and three by the Democratic caucuses.

The first five standing committees chosen by the Republicans under this agreement were Ways and Means, Appropriations, Judiciary, Suppression of Intemperance, and Representative Districts. The Democratic second choice was the Railroad Committee.

One of the first duties of the session, after organization, was the selection of a successor to United States Senator Allison. At a Republican caucus on Jan. 16 the Senator was accorded a unanimous renomination. The Democratic nominee was S. L. Bestow, while ex-Gov. William Larrabee received support among the Labor and independent members. The vote taken in each House on March 4, resulting in the re-election of Senator Allison, was as follows: Senate, Allison 28, Bestow 20, Larrabee 2; House, Allison 50, Bestow 41, Larrabee 6. The legislation of the session includes an important act concerning railroads, elsewhere considered. Another act provided for submitting to the electors of the State at the general election in 1890 the question whether a convention should be called to revise the State Constitution. The law regulating the sale of liquor by registered pharmacists was so amended as to be less onerous. The provisions requiring applicants for permits to file a petition signed by one third of the voters of the town, city, or ward where the permit is to be used, and requiring permit holders desiring to purchase or procure liquors to obtain from the county auditor a certificate therefor, specifying the amount and kind, were stricken out. The anti-"trust" law of 1888 was amended by increasing the penalty for violation of its provisions, by declaring forfeited the charters of all corporations engaged in "trust" combina-

tions, by requiring the officers of all corporations in the State to answer under oath an inquiry from the Secretary of State as to whether they are interested in any "trust," and by releasing purchasers from any "trust" from liability for payment of the purchase money. The State was restricted for the election of members of the Lower House, and the levy of a State tax of $\frac{1}{4}$ mill, in addition to the regular 2-mill levy, was ordered for 1890. An Industrial Home for the Adult Blind was established and \$40,000 appropriated for land and buildings. The following appropriations were also made: For an additional wing for females and other improvements at the Clarinda Hospital for the Insane, \$180,400; for a hospital building at the Soldiers' Home at Marshalltown, \$25,000; for a main central building at the Soldiers' Orphans' Home at Davenport, \$30,000; for a chemical laboratory building at the State University at Iowa City, \$50,000; for a building for the museum and for recitations at the Agricultural College, \$35,000. All attempts to secure a resubmission to the people of the prohibitory constitutional amendment, or to nullify the prohibitory law, failed through the opposition of the Republican members. Other acts of the session were as follow :

Extending the boundaries of all cities having, by the State census of 1885, a population of 30,000 or more, two and one half miles in each direction.

Authorizing cities of the first class to issue bonds to refund their indebtedness.

Authorizing cities of the first class to deepen, widen, straighten, wall up, cover, fill, alter, or divert from its natural channel any water course or part thereof, within their corporate limits, and authorizing the levy of taxes and assessments to defray the cost thereof.

Giving cities and incorporated towns the power to authorize or forbid the construction of street railways within their limits and to define the motive power to be used.

Fixing the rate of interest on all permanent school funds hereafter loaned at 6 per cent., but the counties having permanent school funds in control shall be charged only 5 per cent.

Authorizing the boards of directors of school districts to purchase and sell at cost text-books for the schools, and allowing the electors of each district and county to decide the question of uniformity of text-books in the district or county, and to provide for carrying out their wishes.

To establish a weather and crop service for the State in connection with the Signal Service of the United States for the purpose of collecting crop statistics and meteorological data and of disseminating more widely weather forecasts and warnings.

To prohibit discrimination between insureds of the same class in the amount of premium charged or dividend allowed on life-insurance policies.

Revising the fishing laws.

Providing that the shares of capital stock of banks shall be assessed to the banks in the city or town where they are located, and not to the individual shareholders.

Changing the limit of legal interest from 10 to 8 per cent.

Providing for the appointment of guardians for habitual drunkards.

Providing for the arrest, trial, and punishment of tramps. They may be sentenced to the county jail at hard labor not more than ten days, or at solitary confinement not more than five days, or a heavier sentence may be imposed, if they are guilty of trespass with unlawful intent or other misdemeanor.

Designating as a public holiday the first Monday in September, to be known as Labor Day.

Giving to laborers and miners who perform labor in opening and developing any coal mine, a lien upon all the property of the person, firm, or corporation owning or operating such mine.

Making employes and laborers preferred creditors to an amount not exceeding \$100 for labor performed.

Appropriating \$100,000 for improving the grounds of the new Capitol.

Appropriating \$3,000 for collecting and preserving historical records and material in the State library.

Requiring all railroad companies to equip all their engines and cars with proper, efficient, and safe automatic couplers and brakes.

Militia.—The National Guard consists of six regiments of eight companies each, with about forty men to each company. They are well uniformed and equipped with improved firearms and all necessary accoutrements. During the biennial period ending June 30, 1889, the State disbursed \$68,121.55 for the Guard, and received from the Federal Government an allowance of \$11,000 per annum in military supplies.

Banks.—There were in the State on June 30, 1889, 50 savings banks with \$13,313,059.45 of deposits, and \$17,185,340.19 of resources. There were at the same time under the supervision of the Auditor of State 80 other banks, with \$7,651,708.40 of deposits, and \$13,170,103.14 of resources, making in all 130 banks, with \$20,964,767.85 of deposits, and resources amounting to \$30,355,443.33. This shows during the biennial period an increase of 13 in the number of savings banks, of \$3,267,610.90 in the amount of deposits, and of \$4,518,992.47 in resources; and of 15 in the number of other incorporated banks, of \$1,650,045.37 in their deposits, and of \$2,893,796.73 in their resources. The total number of State and savings banks was 46 greater than on June 30, 1885, and their deposits amounted to \$9,650,905 more than on that date, an increase of 55 per cent. in the number of banks, and of over 80 per cent. in the amount of deposits. The total number of incorporated banks in the State in July, 1889, taking the report of the comptroller of the currency as authority for the statistics as to national banks, was 262, with \$19,214,143.12 of capital, \$45,590,321.11 of deposits, and \$72,344,310.22 of resources. There are besides about 460 private banks in the State, with capital and surplus amounting approximately to \$18,000,000.

Agriculture.—The last two years witnessed a larger yield of agricultural products than any other biennium of the State's history. The acreage is estimated at 17,563,200 acres, or half the area of the State. The annual average product of grain during the period is equivalent to 64 tons, and the annual yield of potatoes to nearly 11 bushels for every inhabitant of the State.

Railroads.—The "joint-rate" law passed by the Legislature this year provides that "all railway companies doing business in this State shall, upon demand of any person or persons interested, establish reasonable joint through rates for the transportation of freight between points upon their respective lines within this State, and shall receive and transport freight and cars over such route or routes as the shipper shall direct. Carload lots shall be transferred without unloading from the cars in which such shipments were first made, unless such unloading in other cars shall be done without charge therefor to the shipper

or receiver of such carload lots, and such transfer be made without unreasonable delay; and less than carload lots shall be transferred into the connecting railway's cars at cost, which shall be included in and made a part of the joint rate adopted by such railway companies or established as provided by this act. When shipments of freight to be transported between different points within this State are required to be carried by two or more railway companies operating connecting lines, such railway companies shall transport the same at reasonable through rates, and shall at all times give the same facilities and accommodations to local or State traffic as they give to interstate traffic over their lines of road." In case the railway companies shall fail to establish such joint rates, it is made the duty of the Board of Railroad Commissioners to do so on the application of any person interested. The board shall notify the railroad companies, and hear them before making its decision. The rates so established shall go into effect within ten days after they are promulgated by the board. Every unjust and unreasonable charge for transportation of freight and cars over two or more railroads in the State is made unlawful. Before any action had been taken under this law a suit was brought against the commissioners on May 2, in the State district court, to enjoin them from making joint rates thereunder between the Burlington, Cedar Rapids and Northern Railroad and other connecting roads. The court issued a temporary injunction, and appointed June 19 for a hearing in the case. The judge, after listening to arguments at that time, reserved his decision. The commissioners proceeded, nevertheless, under the law, to make up a joint-rate schedule, and on June 19 embodied the result of their labors in an order, which should take effect on July 4, and from which the Burlington, Cedar Rapids and Northern road was excepted, pending the decision of the above-mentioned suit.

This order the railroads opposed bitterly and refused to put into effect. The North and South lines and the shorter roads were especially aggrieved by it. Under it, the roads that haul products a few miles to another road on which they are reshipped a much longer distance to their destination, received a very small proportion of the total amount—a proportion very much less than the longer roads have been giving them voluntarily, and which they have vigorously protested would not be remunerative.

The commissioners were convinced that their order would operate unjustly, and on July 31 revoked it. In its stead they issued a second order, providing that where a shipment is made over two or more lines in the State, each road shall be entitled to 80 per cent. of the local rate as established in a tariff which the commissioners published therewith. This order was made operative from and after Aug. 15. On Aug. 23 Judge Fairall, of the district court, announced his decision in the Burlington, Cedar Rapids and Northern Railroad injunction case, refusing to dissolve the temporary injunction upon the commissioners, and throwing doubt upon the constitutionality of the joint-rate law. An appeal was taken by the commissioners to the State Supreme Court. In view of this decision, the rail-

roads refused to obey the second order of the commissioners, hoping that the law would eventually be declared invalid. About this time it was discovered that this second order had not been legally promulgated, and a new notice by the commissioners of its promulgation became necessary, so that it did not legally take effect till Oct. 25. On Oct. 28 the commissioners ordered the Attorney-General to begin suits against the larger delinquent roads, and in December some of these suits were begun. At the close of the year the State Supreme Court had not decided the appealed injunction suit.

For 1889 the report of the commissioners presents the following railroad statistics: Miles of road, 8,259, a decrease of 38 miles during the year; assessed valuation, \$42,882,984, a decrease of \$388,024; gross earnings, \$37,478,571, an increase of \$1,112,907; operating expenses, \$25,616,805, an increase of \$1,585,719; net earnings, \$11,861,766, a decrease of \$472,812. The decrease of mileage is due chiefly to the taking up of 33 miles of track on the Estherville and the Churinda branches of the Union Pacific road. There was no new construction during the year.

Political.—On June 25 the Republican State Convention met at Sioux City, and nominated the following State ticket, to be voted for at the November election: For Secretary of State, W. M. McFarland; for Auditor, James A. Lyons; for Treasurer, Byron A. Beeson; for Attorney-General, John Y. Stone; for Railroad Commissioner, J. W. Luke; for Justice of the Supreme Court, James H. Rothrock; for Clerk of the Supreme Court, G. B. Pray; for Supreme Court Reporter, N. B. Raymond. The platform discusses State issues as follows:

We declare against any compromise with the saloon, and stand by the people of this State in their hostility to its existence, spread, and power. We favor such legislation on the part of Congress as shall protect the police power of the States in their efforts to regulate, confine, or prohibit the public bar, and for approval of the work and record of the Republican party of this State in this great cause of temperance, involving the public peace and the safety of good government, we appeal confidently to the electors of Iowa.

The Republican party of this State is in favor of promoting in every fair and honorable way the industrial interests of the people of this State. We believe the business interests of the people are interchangeable and mutual, and that injustice toward one class must, sooner or later, work to the injury of all classes. Particularly do we believe that the great industry represented by the farm stands at the head of Iowa industries, and that a faithful guardianship of that interest is a prime obligation upon those who make and administer our laws.

We congratulate the people of this State, irrespective of party relationship, upon the measure of success attained in the contest in this State in behalf of the just legal control of the railway corporations doing business in this State; and we appeal to the people to see to it that there be no recession in the just policy of the State in this regard. We believe that efforts to nullify the interstate commerce law should be resisted, to the end that national protection and State protection may alike be equal to all communities and among all classes.

The Democratic State Convention met at Cedar Rapids on Aug. 6, and made the following nominations: For Secretary of State, William H. Chamberlain; for Auditor, George S. Witters; for Treasurer, William L. White; for At-

torney-General, Cyrus H. Mackey; for Railroad Commissioner, Peter A. Dey; for Justice of the Supreme Court, P. B. Wolfe; for Clerk of the Supreme Court, E. J. Sankey; for Supreme Court Reporter, Theodore W. Ivory. The platform contains the following declarations on local issues:

We declare our continued adherence to the principle of railroad control as expressed in the laws of the State and General Government, and we favor such changes as experience may show to be necessary to maintain a just and equitable relation between carriers and shippers.

We reaffirm the policy respecting the control of the traffic in intoxicating liquors set forth in the Democratic platform of 1888, and approved by the people at election of that year, and we are in favor of such legislation, State and national, as may be necessary to carry that policy into effect.

On Aug. 14 representatives of the Union Labor and Greenback parties met at Des Moines in State convention, and agreed upon the following ticket: For Secretary of State, E. P. Brown; for Auditor, C. F. Davis; for Treasurer, A. S. Blakely; for Attorney-General, T. F. Willis; for Railroad Commissioner, J. M. Joseph; for Justice of the Supreme Court, M. H. Jones; for Clerk of the Supreme Court, Alfred Wooster; for Supreme Court Reporter, D. J. Morris. The name of George D. Porter was later substituted for that of M. H. Jones. The platform said nothing on State issues except:

We favor the Australian ballot system, demand its adoption in this State, and we denounce the late General Assembly for withholding it from the people.

On Sept. 14 a convention of third-party Prohibitionists at Des Moines selected the following candidates: For Secretary of State, C. R. McFarlin; for Auditor, R. A. Dorcus; for Treasurer, J. C. Reed; for Railroad Commissioner, Caleb Dailey; for Justice of the Supreme Court, Daniel B. Turney; for Clerk of the Supreme Court, F. S. Spurrier; for Reporter, F. S. White. A candidate for Attorney-General named Warren was later added to the ticket.

At the November election the Republican candidates were elected by small pluralities. For Secretary of State McFarland received 191,606 votes; Chamberlain, 188,240; Brown, 8,813; McFarlin, 1,646. In the contest for Railroad Commissioner, Peter A. Dey, Democrat, who had been twice elected to the same office when the rest of his ticket failed, was this year defeated by 310 votes, the official returns being: Luke, 190,007; Dey, 189,697; Joseph, 9,090; Dailey, 1,637. The pluralities of the other Republican candidates upon the State ticket varied from 1,713 for Treasurer to 3,393 for Attorney-General. On the proposition to hold a convention to revise the State Constitution, the vote was 27,809 in its favor and 159,394 against it.

The congressional elections, held at the same time, resulted in the choice of 6 Democrats and 5 Republicans, as follows: First District, John J. Seerley (Dem.), 17,459, John H. Gear (Rep.), 16,388; Second District, Walter I. Hayes (Dem.), 20,748, Bruce T. Seaman (Rep.), 11,738; Third District, David B. Henderson (Rep.), 19,689, Carlton F. Couch (Dem.), 19,491; Fourth District, Walter H. Butler (Dem.), 17,972, J. H. Sweeney (Rep.), 16,923; Fifth District, John T. Hamilton

(Dem.), 18,153, George R. Struble (Rep.), 17,860; Sixth District, Frederick E. White (Dem.), 17,092; John F. Lacey (Rep.), 16,570, Perry Engle (Union Labor), 1,048; Seventh District, John A. T. Hull (Rep.), 16,821, H. C. Hargis (Dem.), 14,276; Eighth District, James P. Flick (Rep.), 19,003, A. R. Anderson (Dem.), 18,887; Ninth District, Thomas Bowman (Dem.), 18,635, Joseph R. Reed (Rep.), 17,322, N. H. Bowman (Union Labor), 1,243; Tenth District, Jonathan P. Dolliver (Rep.), 18,395, I. L. Woods (Dem.), 17,084; Eleventh District, George D. Perkins (Rep.), 15,972, P. P. Allison (Dem.), 15,065, A. Westfall (Farmers' Alliance), 4,658. In the Seventh District E. R. Hays (Rep.), was elected over J. H. Barnett (Dem.), to fill a vacancy for the remainder of the present Congress.

ITALY. a constitutional monarchy in southern Europe. The Parliament consists of a Senate and a Chamber of Deputies. The Senators, who are nominated by the King for life, are chosen from among ex-officials of high rank, eminent men in professional, scientific, or literary life, and men of fortune who pay 3,000 lire in taxes annually. Princes of the royal house are Senators by virtue of their birth. The Chamber consists of 508 Deputies, or one to every 57,000 of population, who are elected on collective tickets of 2 or 3 for each district, by the ballots of all male citizens that are twenty-one years of age, pay 20 lire in taxes, and can read and write. Members of academies and other classes of people of intellectual standing, as well as all persons who have served two years in the army, are entitled to vote irrespective of the property and educational qualifications. Salaried Priests are legally incompetent to sit in the Chamber, and of functionaries of the Government and military and naval officers the number must not exceed 40. The duration of Parliament is five years; but the King has power to dissolve the Chamber at any time, in which event he is bound to order new elections and convene the new Chamber within four months.

The reigning sovereign is Umberto I, the eldest son of the late King Vittorio Emanuele. He was born on March 14, 1844, and succeeded his father on Jan. 9, 1878.

The President of the Council of Ministers is Francesco Crispi, appointed July 29, 1887. The ministry, as reconstituted in March, 1889, was composed of the following members in the beginning of 1890: Minister of the Interior and Minister of Foreign Affairs *ad interim*, Francesco Crispi; Minister of Finance, Federico Seissmit Doda; Minister of the Treasury, Giovanni Giolitti; Minister of Justice and Grace and of Worship, Giuseppe Zanardelli; Minister of War, Gen. Ettore Bertoldi Viale; Minister of Marine, Benedetto Brin; Minister of Commerce, Industry, and Agriculture, Luigi Michele; Minister of Public Instruction, Paolo Boselli; Minister of Public Works, Gaspare Finale; Minister of Posts and Telegraphs, Pietro Lacara.

Area and Population.—The area of the kingdom is 296,323 square kilometres or 114,410 square miles. The population was officially estimated from the census of 1881 and the annual returns of births and deaths to be 30,947,306 on Jan. 1, 1890. The number of marriages in 1889 was 229,994; of births, 1,191,807; of deaths, 809,

689; excess of births, 382,118. The number of emigrants in 1889 was 218,412, of whom 92,631 went to other countries in Europe; 25,881 to the United States, 75,058 to the Argentine Republic, 18,365 to Brazil and other countries in South and Central America and to Mexico, 3,877 to South America without declaring their destination, and the rest mainly to northern Africa.

The estimated population of the principal cities at the end of 1889 was as follows: Naples, 517,000; Milan, 420,000; Rome, 415,000; Turin, 312,000; Palermo, 267,000; Genoa, 210,000; Florence, 185,000; Venice, 152,000; Messina, 140,000; Bologna, 138,000; Catania, 116,000.

Education.—The state pays in part the expenses of the schools of all kinds, not only elementary but classical, scientific, professional, technical, industrial, and art schools, many of which are wholly supported by the Government, which appropriated over 42,000,000 lire for education in 1890. Teachers in all public schools maintained by the Government, by the communes, or by any public body, must have the qualifications prescribed by law, and no private individual can establish a school without having obtained the authorization of the state educational authorities. Elementary education is compulsory for children between the ages of six and nine. Every commune must have a boys' and a girls' school, and for every 70 pupils there must be a teacher. Communes of over 4,000 population must maintain elementary schools of the higher grade. The poorer communes are aided by loans or subsidies from the Government. The universities are supported by their endowments and by Government grants. Higher special schools are maintained from state, provincial, and communal revenues.

In twenty-four years the increase in school attendance in proportion to population has been 90 per cent., and in 1887 the percentage of illiteracy had declined in twenty-one years among conscripts from 64 to 45 per cent., and among bridal couples from 60 to 42 per cent. for males and from 79 to 63 per cent. for females. In 1886 in the 8,000 communes, there were 43,407 regular primary schools with 44,383 teachers and 1,087,605 male and 911,119 female pupils. In 1887 the number of normal schools was 133, with 10,542 pupils; of lycæums, 326, with 13,865 pupils; of gymnasia, 735, with 49,080 pupils; of technical institutes, 74, with 6,641 pupils; of technical schools, 419, with 28,786 pupils. In the 21 universities there were 991 teachers and 15,541 students. The higher education has been reformed more than once since Italian unity was achieved. The system of elementary education has till now been governed by the law of Nov. 13, 1859, which was a remarkably progressive measure for the time, but in the light of later advancement is imperfect and capable of improvement in many points. It was first extended over the whole kingdom by the act of July 15, 1877. In February, 1890, the Minister of Education, availing himself of the studies and investigations of his predecessors, introduced in Parliament new regulations for primary education, the design of which is to take the schools partly out of the hands of the communes, and bring them more under the control and direction of the National Government. Towns of less than 10,000 inhabit-

ants that are not capitals of district or provinces, are by the new communal law deprived of the right of electing their mayors. The education bill takes from the same communes the liberty to appoint and dismiss teachers, and transfers it to the provincial school boards. The privilege may be restored on certain conditions at the discretion of the educational authorities, who may also take it away from larger places when abuses or conflicts arise. Under the old law a teacher could be dismissed by the communal authorities at the end of two years; if not, he was re-appointed for six years; and at the end of this period, if the school board gave him a good character, he was confirmed for life. This system was satisfactory neither to the teachers nor to the communes, least of all to the teachers, for to escape being saddled with a teacher beyond their control the people commonly sent them adrift after the two years of probation; and if they were retained for eight years, most unworthy methods were used to prevent their obtaining the testimonial that would secure a life appointment. Signor Boselli's bill elevates the teachers into the position of state officials. Every applicant above the age of eighteen, or of seventeen in the case of females, who possesses the educational qualifications and is irreproachable in his conduct, has the right to be inscribed in the list of candidates in three provinces. From these lists the teachers must be selected, for the larger communes by the local authorities, and for the smaller places by the provincial council of education, which unites the elements of autonomy and centralism, part of the members being appointed by the Government and part of them elected by the people of the province. To enjoy the right of selecting its teacher a commune must provide him with a suitable free dwelling and increase his salary by 10 or his pension by 20 per cent. The provincial school board may transfer teachers by request of the communes or on its own motion, but without lowering their grade or their pay, except for punishment. Every six years the teacher can claim a rise in his salary. Advancement, dismissal, and promotion from assistant to regular teachers are confided to the discretion of the provincial boards. Teachers must receive their pay every month or every two months. This is a desirable provision, since it has often happened that teachers have been reduced to extreme misery by not obtaining their pay, which has been withheld by the arbitrary orders of the local authorities or because the communal treasury was empty. Only in communes of less than 4,000 inhabitants and fractional districts of larger communes, and by special permission of the board is a teacher allowed to add to his earnings by any ancillary occupation.

The Italian Government supports, wholly or in part, 91 schools in foreign countries where Italian-speaking colonies exist. In European Turkey there are 18 such schools, in Asiatic Turkey 19, in Tunis 13, in Egypt 16, in Tripoli 7, in Greece 11, in Roumania 7. The total number of pupils is 20,820, of whom 12,109 are taught in schools entirely, and the rest in subsidized private schools. Even in New York and New Orleans there are schools receiving aid from the Italian Government. In the Government schools in foreign countries 5,314 of the pupils are Italians.

Finances.—The closed accounts for 1887-'88 show a total revenue of 1,936,724,649 lire or francs and disbursements amounting to 1,993,875,769 lire, leaving a deficit of 57,151,120 lire. In 1888-'89 the actual receipts were 1,886,670,029 lire and the expenditures 2,097,131,115 lire, the year closing with the enormous deficit of 230,461,086 lire. The budget estimates for 1888-'89 make the total receipts 1,801,397,772 lire and the expenditures 1,857,906,850 lire, or 56,509,078 lire in excess of receipts. For 1890-'91 the total revenue is estimated at 1,850,248,142 lire and the total expenditures 1,872,135,271 lire. Of the revenue 1,652,352,633 lire are obtained from ordinary and 197,895,509 lire from extraordinary resources, and of the expenditures 1,579,911,314 lire are classed as ordinary and 292,221,957 lire as extraordinary. The more important sources of revenue are customs duties, producing 276,000,000 lire; tax on incomes from personal property, 234,654,121 lire; land tax, 106,341,360 lire; tobacco monopoly, 190,000,000 lire; salt monopoly, 64,000,000 lire; building tax, 72,000,000 lire; registration duties, 69,700,000 lire; stamps, 75,000,000 lire; succession duties, 37,300,000 lire; excise, 81,877,245 lire; licenses for manufacturing spirits, beer, aerated water, powder, sugar, etc., 34,000,000 lire; lottery, 76,300,000 lire; post-office, 47,500,000 lire; rent of state domains, 12,803,701 lire; telegraphs, 15,400,000 lire. Of the total receipts, ordinary and extraordinary, 1,603,009,477 lire are classed as effective, 32,160,580 lire are connected with operations, and of the expenditures 1,613,972,795 lire are set down as effective and 43,082,400 lire come in the category of movement of capital. The remainder of the budgets of receipts and expenditures is made up of the account for the construction of railroads, for which 145,745,958 lire are set down, and the merely nominal parties *d'ordre* due to duplication of entries, represented by 60,332,118 lire on each side of the account. Some of the chief items of expenditure are: Interest on the consolidated debt, 438,045,105 lire; interest on terminable loans, 83,054,256 lire; railroad annuity, 27,982,435 lire; floating debt, 109,742,733 lire; fixed annuities, 27,554,137 lire; civil list and appanages, 15,050,000 lire; pensions, 39,312,569 lire; amortization of debts, 24,324,624 lire; costs of collection, 174,800,935 lire. The total amount of interest on the public debt for the year ending June 30, 1890, was 578,984,932 lire.

To meet the deficits, which are mainly due to extraordinary military preparations required of Italy as a member of the triple alliance, and to redeem the paper currency still in circulation, the Government, in order to avoid making a new loan, diverted the bonds that had been assigned for the payment of pensions to a public department specially created, called the Bank of Pensions. There were handed over to the bank for this purpose in 1882, when the pension list amounted to 60,000,000 lire a year, 5-per-cent. consols to the amount of 500,000,000 lire. When this fund was abolished and the pensions resumed as a charge on the revenue there were 312,694,000 lire left, reckoning the bonds at current rates. Of this sum, 72,694,000 lire were appropriated to the redemption of the outstanding notes of the state, 55,011,392 lire were assigned

to the expenses of 1889-'90, and 32,807,534 lire to meet the deficit of 1890-'91, leaving 152,181,072 lire toward meeting the eventual deficit, which, according to the scheme of expenditure marked out by the Government, would run 100,000,000 lire beyond this amount. The military appropriations for 1890 were about 6,000,000 lire below those of the previous year. The amount of the army budget in the estimates for 1890-'91 is 278,000,000 lire. By means of economies and new resources the Minister of the Treasury expected to restore the equilibrium, disturbed since 1886, even in 1890-'91.

The Army.—The military law of Aug. 6, 1888, fixed the term of active service in the permanent army at five years for the infantry, four years in the cavalry, and three years in the artillery and engineers. The infantrymen remain on the rolls of the permanent army for four and the cavalrymen for five years, at the end of which they both are transferred to the territorial militia. The men of the other arms having completed their term of service with the colors, are liable to be called out for service with the permanent army for five or six years longer, at the end of which they pass into the mobile militia, in which they serve twelve years before being transferred to the territorial army. The second category of recruits, consisting of those who draw the higher numbers, are enrolled in the permanent army for eight and in the mobile militia for four years, before they pass into the territorial militia, while the recruits of the third category, composed of young men who can not be spared from their families, who receive only a month's training, are liable to duty in the territorial militia for the full period of nineteen years, but only for garrison duty, unless required in the field as a last reserve. The system of one-year volunteers, copied from Germany, releases conscripts possessing a superior education, on passing a special examination and paying the sum of 1,500 lire, or in the cavalry 2,000 lire, from further active service after they have passed a year with the colors. The annual contingent of recruits of the first category has been 76,000; of these, 13,000 who are designated by the lots they draw, are granted unlimited leave of absence after two years of service with the colors. The budget for 1890 provides for a recruit of 82,000 men.

The second category averages 34,000, and the third 44,000 men annually. The army is organized in 12 corps, each consisting of 2 divisions of from 12 to 15 battalions each. The country is divided into 87 military districts. Each army corps, in case of war, can be supplemented by a reserve division, and 12 divisions more of the reserves can be brought into the field for offensive operations, besides the Alpine corps of 40,000 men and 3 divisions of cavalry, while 12 territorial divisions will guard the lines of communication, garrison the fortified posts, and watch the sea frontier. The strategical railroad net is nearly complete, the Alpine approaches are blocked by strong forts, and Rome has been made a first-class fortress.

The standing army on July 1, 1890, consisted of 14,211 officers, and 248,036 rank and file, composed of 24,661 carbineers, 110,017 infantry, 13,005 *bersaglieri*, 9,489 Alpine troops, 10,359 district troops, 25,639 cavalry, 37,946 artillery,

8,546 engineers, 1,488 troops of instruction, 2,374 sanitary troops, 2,324 administrative troops, 286 in the invalid corps, and 4,802 attached to the penitentiary establishments and disciplinary company. The part of the permanent army consisted of 11,842 officers and 575,103 men of all arms. The mobile militia numbered 3,776 officers and 368,510 men, and the territorial militia 5,224 officers and 1,625,621 men. Counting together; the 262,247 officers and men serving with the colors, 586,945 of all ranks on furlough belonging to the permanent army, 372,286 in the mobile militia, and 1,630,845 in the territorial army, the full strength of the Italian army is 2,852,323 men. The infantry are armed with repeating rifles, of the Vitali-Vetterli system, and carry sword bayonets. In March, 1890, the Minister of War obtained an extraordinary credit of 17,500,000 lire for the erection of Government powder works for manufacturing the smokeless powder. The minds of military men were disquieted by a probably spontaneous explosion that occurred in May in the part of the powder mill at Avigliana that was devoted to the manufacture of the new powder.

The Navy.—The 12 first-class battle ships of the Italian navy have an aggregate displacement, according to the annual official report for 1890, of 104,065 tons, engines of 87,942 indicated horse-power, an armament of 132 guns, and 5,658 men in their crews. There are 3 armored battle ships of the second class, of 7,734 tons displacement, mounting 22 guns and manned by 727 sailors; 10 unarmored second-class battle ships, having the aggregate displacement of 28,383 tons, armed with 80 guns, and manned by 2,588 sailors; and 19 battle ships of the third class, of 15,648 tons displacement, carrying 89 guns, and having 1,927 sailors in their crews. The other effective vessels in the navy are 17 armed transports, carrying 47 guns; 6 school-ships, with 40 guns; 3 armored coastguards, with 19 guns; 2 unarmored gun vessels, with 4 guns; 46 vessels for port service, with 31 guns; 6 side-wheel gunboats, with 6 guns; 7 torpedo dispatch boats, with 20 guns; 50 sea-going torpedo vessels, with 100 guns; 38 first-class torpedo boats for coast defense, with 38 guns; 21 second-class torpedo boats for coast defense; and 12 torpedo launchers. There were in various stages of construction at the beginning of the year 3 great ironclads of the first class, with a total displacement of 40,456 tons, to be propelled by engines having 45,600 indicated horse-power; 6 second-class unarmored battle ships, of 17,329 tons and 43,700 horse-power; 8 third-class battle ships; 2 vessels for port service; and 14 sea-going torpedo vessels. The *personnel* of the navy on Jan. 1, 1890, comprised 1,344 officers and 20,429 sailors, marines, gunners, etc. One of the three vessels that were still lacking to make up the complement of 10 monster armorclads was launched at Spezia on Sept. 20, 1890. She is the "Sardagna," the largest vessel in the navy, being 410 feet long and 77 broad. Her displacement is 13,860 tons. Like all the others, except the older "Duilio" and "Dandolo," which are central citadel ships built of iron and steel, she is built entirely of steel, and will have her guns mounted in barbette towers. Like the "Italia" and the "Lepanto" she has no side armor, but inclined armor 19 inches

thick on the tower, 19 inches of cylindrical armor round the ammunition chamber, and 16 inches round the conical hatchways. The engines are intended to develop 15,200 horse-power, and she is expected to be one of the fastest of the class, making 18 knots an hour. The "Italia," the "Duilio," and the "Lauria" are the only ships carrying 100-ton guns. The "Re Umberto" has four of the more manageable 68-ton guns. All the line-of-battle ships and cruisers are abundantly supplied with small guns and mitrailleuses.

Commerce.—The imports of merchandise for the calendar year 1889 had the total value of 1,391,200,000 lire, exclusive of re-exports. The imports of cereals were 213,000,000 lire; of cotton, 112,400,000 lire; of coal, 108,000,000 lire; of silk, 85,400,000 lire; of iron, 77,000,000 lire; of cotton goods, 48,800,000 lire; of woollen goods, 47,400,000 lire; of machinery, 43,400,000 lire; of animals, 41,200,000 lire; of hides and skins, 40,400,000 lire; of fish, 31,100,000 lire; of timber, 31,000,000 lire; of coffee, 29,800,000 lire; of wool, 29,700,000 lire; of sugar, 27,500,000 lire; of silk fabrics, 26,300,000 lire; of tobacco, 19,600,000 lire; of gums and resin, 18,400,000 lire; of butter and cheese, 16,900,000 lire; of chemical products, 16,700,000 lire; of petroleum, 15,000,000 lire; of copper, bronze, etc., 14,900,000 lire; of linen thread, 14,400,000 lire.

The total value of exports of Italian products and manufactures was 950,600,000 lire. The exports of silk were 332,900,000 lire; of olive oil, 66,300,000 lire; of wine, 53,100,000 lire; of lemons, 34,900,000 lire; of tartar, 24,400,000 lire; of hemp, 23,400,000 lire; of sulphur, 23,200,000 lire; of fruit, 21,700,000 lire; of silk fabrics, 20,300,000 lire; of cotton manufactures, 19,800,000 lire; of hides and skins, 18,900,000 lire; of butter and cheese, 18,500,000 lire; of eggs, 18,400,000 lire; of coral, 18,300,000 lire; of marble and alabaster, 16,000,000 lire; of animals, 15,400,000 lire; of wood manufactures, 15,000,000 lire; of straw manufactures, 13,400,000 lire; of zinc ore, 11,200,000 lire.

The imports of precious metals were 49,600,000 lire and the exports 55,100,000 lire.

Of the total imports 313,700,000 lire came from Great Britain, 206,700,000 lire from France, 165,400,000 lire from Austria-Hungary, 156,500,000 lire from Germany, 153,600,000 lire from Russia, 65,600,000 lire from Switzerland, 46,900,000 lire from Belgium, 88,400,000 lire from the rest of Europe, 75,400,000 lire from the United States and Canada, 32,500,000 lire from other American countries, 105,200,000 lire from Asia, and 30,900,000 lire from Africa. Of the total exports, 237,300,000 lire went to Switzerland, 199,400,000 lire direct to France, 115,300,000 lire to England, 95,500,000 lire to Austria-Hungary, 95,200,000 lire to Germany, 29,300,000 lire to Belgium, 9,900,000 lire to Russia, 49,200,000 lire to other European destinations, 75,600,000 lire to the United States and Canada, 70,900,000 lire to other parts of America, 14,800,000 lire to Asia, and 13,300,000 lire to Africa.

The total value of imports, analyzed according to the nature and origin of the articles, is divided as follows: Products of agriculture, 36,200,000 lire; pastoral products, 19,200,000 lire; fishery products, 2,800,000 lire; forestry prod-

ucts, 19,500,000 lire; industrial products, 17,800,000 lire. In the total sum of the exports 31,800,000 lire represent agricultural products, 52,700,000 lire stock and animal products, 6,700,000 lire the produce of mines, and 8,800,000 lire manufactured articles.

As compared with 1888, when the application of the general tariff of July 18, 1887, resulted in a serious depression, the commercial situation showed a marked improvement in 1889. Germany benefited by the rupture of commercial relations with France in the first year and still more in the second, which showed an increased demand in Italy for German beer, spirits, oils, tobacco, alkaloids, colored silk yarns and goods, apparel, and iron wares of all kinds; and in return there was a larger exportation to Germany of wine, pigs, hides and skins, silk waste, fruit, hemp, and other articles. The increase in the total value of exports is largely attributable to advances in the prices of raw silk and wine, and imports generally showed an advance in valuation that more than counterbalanced the effect of grain imports at 10 per cent. lower prices on the total. Articles of food represent about a quarter of the total trade of the country, raw and partly prepared materials about a half, and manufactured articles the remaining fourth. The figures for 1889 and preceding years indicate in some branches a partial realization of the hope of the Government to supplant foreign with home manufactures by the aid of protective duties, notwithstanding the recent treaty with Switzerland, in which important concessions were made. Iron rails, which used all to be imported, are now made in Italy. The imports of raw cotton in 1889 exceeded those of the previous year by 123,000 quintals. The imports of coal, of pig and scrap iron, of wool, jute, and other raw materials show considerable increases. Large imports of wood pulp and straw and the decline in rag exports to almost nothing, not less than the growing exports of paper, bear witness to the progress of the paper industry. Of the total exports in 1889 about 30 per cent. were alimentary substances, 55 per cent. raw or slightly improved materials, and 15 per cent. articles that owed the greater part of their value to processes of manufacture. The export of wine, although other markets have been found to supply the place of the French market, fell in 1889 from 1,802,020 to 1,408,977 hectolitres, owing to a poor vintage, which neutralized the effects of measures taken by the Government to alleviate distress among the rural population. The wines of Sicily, which under the designation of blending wines had been imported in vast quantities into France in the early stages of fermentation and there worked up into excellent beverages by the careful processes known to French wine makers, were rendered valueless by the stoppage of the French demand, and the vine growers, who had greatly extended their vineyards, were threatened with ruin, being ignorant of the art of preserving and maturing wine and rendering it fit for export. Olive oil was exported to the amount of 28,728 quintals in excess of the quantity shipped abroad in 1888; but it still fell short of the normal figures of the export previous to the closing of the French market. The exports of oranges and lemons are

increasing, and the demand in England and the United States for sirups and essences made from them is still growing, while the attempts made in Asia Minor and South America to compete in these articles seem to have been unsuccessful. The exports of silk, both in the raw and manufactured state, is in a favorable condition. The export of cocoons increased from 10,429 quintals in 1888 to 23,060 in 1889. In the two years the raw silk exported, amounting to 50,000 quintals, with the cocoons, constituted 90 per cent. of the exports of raw materials for manufactures. The exports of marble and of sulphur steadily increase. Vegetable products, with the exception of lemons, oranges, and nuts, show a considerable falling off in the foreign demand. In spite of the higher duties the import of breadstuffs increased from 669,789 tons in 1888 to 872,743 tons in 1889, yielding over 10,000,000 lire in customs duties. Imports of Indian corn and rice increased no less than those of wheat. A new law on distilling stimulated imports of spirits temporarily. The prohibition of imports of pork and pork products which was first declared against the United States and afterward extended to other countries was in December, 1890, removed in respect to German swine, provided imports are accompanied by a certificate of a health inspector.

Navigation.—During 1889 the number of vessels engaged in ocean commerce entered at Italian ports was 16,114, of 7,193,422 tons, of which 8,961, of 1,835,378 tons, were Italian, and 7,153 of 5,358,044 tons, were foreign. The total number includes 1,580 steamers, of 1,286,325 tons, registered as Italian and 4,972 foreign steamers, of 5,060,886 tons; making 6,552 steamers altogether, of 6,347,211 tons. The departures of ocean vessels numbered 15,365, of 6,678,282 tons, including 6,154 steamers, of 5,858,997 tons. Of the total number of vessels entered 13,752, of 6,514,169 tons, and of the number cleared, 9,180, of 3,910,271 tons, carried cargoes. The coasting vessels entered numbered 100,676, of 13,712,893 tons, 23,517, of 11,029,839 tons, being steamers. The number cleared coastwise was 100,394, of 14,086,379 tons, including 23,845 steamers, of 11,468,855 tons.

The number of sailing vessels possessing the national patent declined from 6,727, of 732,494 tons on Jan. 1, 1888, to 6,442, of 642,225 tons at the beginning of 1889, while the steam vessels increased from 254, of 163,131 tons, with 60,771 registered horse-power, to 279, of 182,249 tons, with 63,052 horse-power.

Railroads.—On Jan. 1, 1890, there were 13,063 kilometres, or 8,112 miles, of railroad open to traffic, besides 2,262 kilometres of steam tramways. The railroad receipts in 1889 were 223,685,592 lire. A large part of the system is state property, although under the law of April 27, 1885, the operation of the state lines has been transferred to companies.

Posts and Telegraphs.—The number of letters carried in the mails during the financial year ending June 30, 1889, was 121,743,000; postal cards, 45,300,000; printed inclosures, 171,292,000; postal orders, 5,139,000; letters posted with declaration of value, 9,612. The receipts for the year were 44,072,875 lire and the expenses 39,211,548 lire.

The length of telegraph lines in operation on

June 30, 1889, was 35,322 kilometres, or 21,935 miles; the length of wires, 126,122 kilometres. There are besides 146 kilometres of submarine cable. The number of paid internal dispatches was 7,078,009 in 1888-'89; of international dispatches, 684,050; of official dispatches, 583,246; of messages connected with the service, 316,860; of international dispatches in transit, 131,482. The receipts were 14,742,228 lire; ordinary expenses, 13,020,132 lire; extraordinary expenses, 599,998 lire.

Campaign against the Government.—The energetic Italian Premier, who before he took office was an advanced radical, since he came to the head of affairs has learned to depend less and less on any particular party or parliamentary combination, and been able to carry his measures, now with the support of the Left, and now by the votes of the Right. The party leaders who are ambitious to succeed him and the aspirants for office who would not have been disappointed in the old times, when the average duration of a Cabinet was only a year, have attempted various combinations without being able to shake the strong minister, who has shaped his policy in accordance with the general sense of the country, and carried it out with a vigor that gives more satisfaction than even the pliant tact of Depretis, although it has made him many enemies and obtained for him the reputation of a dictator who overrides parliamentary institutions, who incurs expenditures in advance of appropriations and alters the laws by ministerial decrees.

Crispi has so long been decried as the slave of Bismarck that when the old Chancellor was dismissed the opponents of the triple alliance raised their heads, and the foes and rivals of Crispi combined in an attack with the confident expectation of bringing about his fall. In Lombardy a branch of the Conservative party issued an anti-ministerial platform putting forward popular demands and grievances, and in the south three ex-ministers, with Magliani as their candidate for the premiership and Nicotera as the real leader behind them, assailed the Government at its weakest point and advanced a plausible scheme for bringing about permanent stability in the finances by limiting African expenditures and reducing the army. In a speech delivered in Naples on April 20 Signor Magliani said that the deficit had become a constant factor, 50,000,000 lire annually being necessary to establish an equilibrium in the budget. In 1887 there was a deficit of 8,000,000 lire, and an increase of 23,000,000 lire in the military budget; in 1888 the deficit was 72,000,000 lire, and the increase in the army estimates 66,000,000 lire; in 1889 the deficit grew to 234,000,000 lire, and the war expenditure was again augmented by 143,000,000 lire; and in 1890 the balance on the wrong side of the account would probably amount to 70,000,000 lire. He did not attack the triple alliance, but condemned the tariff war with France. There was no basis for a coalition between the northern Conservatives and the southern Liberals, and the project of a fusion of Conservatives appealing to the masses with socialistic schemes and extreme Radicals never took definite shape.

The popular campaign was abandoned, but in the Chamber the ministry continued to be sub-

jected to fierce attacks, which often had grounds in unusual repressive acts. Crispi prohibited the celebration, on Feb. 24, of the anniversary of the proclamation of the republic at Rome in 1849, a festival that has been celebrated under all former Liberal ministers. A Mazzini celebration in Livorno was likewise interdicted. Crispi reduced to a nullity the right of questioning ministers by evading or disdainfully refusing to answer interpellations. He suppressed the Irredentist committee in Rome, and when called to account by his rancorous critic, Signor Imbriani, he rebuked the President of the Chamber for not culling his assailant to order, driving the President to resign, and making necessary the intervention of the King, who brought about a reconciliation. In matters of parliamentary privilege, contrary to precedent, the minister interposed his influence to withhold the right of immunity from arrest and imprisonment from Prof. Starbaro, a journalist, who had been convicted of publishing a political libel, and as a demonstration against the Government had been elected to the Chamber of Deputies, and from the Republican and Socialist Deputy, Signor Costa, who had received the excessive sentence of three years for having been mixed up in a collision with the police on the occasion of a manifestation in honor of the memory of Oberdank, the Irredentist. When the general commanding in Africa expelled two Italian newspaper correspondents from Massowah, he would not interfere in response to popular clamor on their behalf, and later he drew upon himself denunciations from the whole European press by ordering out of the country the Roman correspondents of the "Frankfurter Zeitung" and of the Paris "Figaro," under a law framed upon a French act that has never been put in force since the republic was established. The correspondents, whose reports were colored by their hostility to the triple alliance, had done nothing more than repeat the gloomy forebodings of the Opposition journals, which exaggerated the embarrassments of the treasury and nearly precipitated a financial panic. To prevent a renewal of riotous labor demonstrations the Government ordered extraordinary precautions to be taken when the labor agitation that spread through Europe in the spring of 1890 manifested itself in Italy. Permission was given for a mass meeting of the unemployed to be held in Rome on April 13, but only in the court of the military barracks. Extreme misery was common on account of the building crisis and the suspension of the municipal improvements, and the idle workmen appealed in vain to the Government for work to support their starving families. A great crowd gathered in the court-yard, while infantry, artillery, and cavalry, filled the neighboring streets. The meeting was closed by the inspector of police when the orator—a working man named De Sanctis— inveighed against the inhumanity of the Government, saying that the unendurable condition of the people would not cease till they took up arms, and the soldiers cleared the place with fixed bayonets. Some of the mob fell upon the carabineers with sticks, and later the crowd attempted to reassemble in a public square, out of which they were driven by the cavalry. Demonstrations on the 1st of May were forbidden.

Workmen attempted to hold a meeting in Rome, and were dispersed by force at four successive rendezvous. In Bologna and Faenza public meetings were broken up by the police, and in Turin there was a collision with the soldiery, and shots were fired on both sides. Two great strikes that broke out in Milan, in March, were caused by scarcity of work, and one of these the Government ended by giving orders for railroad material to the firms that had cut down their pay rolls. For the want resulting from the cessation of building in Rome, Milan, and other places, no similar relief could be given.

The bold measures taken to repress Irredentism were defended with frank courage by the Premier in his answers to Imbriani, and later in the year in a speech at Florence, in which he said that irresponsible agitators could not be allowed to break treaties or to usurp the right of deciding on peace or war, which belongs to the highest authority of the state, and that the principle of nationality could not be insisted on by Italy with more reason than by Germany in respect to the German portions of Russia and the Hapsburg Empire, or against Austria with more right than against the French in Corsica and Nizza, the Swiss in Ticino, and the English in Malta. The Republican and Irredentist movement to break away from the Liberal monarchy of the house of Savoy and its alliances would place the very Constitution of the country in danger.

A vote of confidence in the general policy of the Government, taken on May 31, afforded a decisive test of the undiminished parliamentary strength of Signor Crispi, who was sustained by five sixths of the Chamber.

Legislation.—The reconciliation of Church and state was made impossible by the intransigent declaration of the Pope, that the temporal power and the possession of Rome are indispensable to the independence of the Holy See. When the Pope took this attitude the Government responded by proceeding to carry out the long contemplated plan of taking the control of charitable funds away from the clergy and monastic brotherhoods, and introducing into the criminal code a law by which preaching against the acts of the Government is a punishable offense. These measures, and the raising of a monument to Giordano Bruno, drew from the Pope an allocution reiterating the demand for the restoration of the temporal power as the only safeguard of the Church, to which Crispi replied by proposing a law to take a large number of female primary schools conducted by sisterhoods from their charge and placing them under lay control.

The extension of the voting franchise in communal elections did not have much effect in modifying the character of the elections except in districts where the Radical vote was already large. The new civil code, which went into force on Jan. 1, 1890, formally abolished capital punishment through the whole extent of the kingdom. This act could have but little practical effect in either increasing or diminishing crimes against the persons, for the reason that the death penalty had been abolished in fact for a long period.

In answer to the cry of the suffering proletariat, the Government proposed, first, an organization of public charity, such as has never existed

in Italy, for the claim of the pauper to maintenance at the cost of the commune, or to relief from the state, has not been recognized in the Italian system of jurisprudence; and, second, a scheme of industrial insurance after the model of the German social legislation. A bill establishing compulsory insurance against accidents was introduced by the Government and considerably modified by the committee of the Chamber. The greatest stress was laid on regulations to prevent accidents, and the obligation of employers to provide every means indicated by science and experience to guard against injuries to the health and lives of their employes, and the duty of the state to enforce this principle and to exercise a strict supervision were fully recognized. The industrial conditions of Italy seemed to the Government and to the committee to be too backward for a thoroughgoing application of compulsory insurance, and, therefore, it was proposed to limit it to establishments using steam machinery and employing more than 10 men. In the Government bill the quota of the insurance premium to be paid by the men was 10 per cent., the employers providing the rest. The majority of the committee favored restricting compulsory insurance to cases of accidents due to remissness of an employer in taking preventive precautions required by law or otherwise to his negligence, the whole charge being placed upon the masters.

A bill to charter a land-mortgage bank for fifty years, with an authorized capital of 100,000,000 lire, and the right to operate in all parts of the monarchy, encountered some opposition, which was particularly directed against the long duration of the charter as favoring of monopoly; but the arguments of the minister that, in addition to the 300,000,000 or 400,000,000 lire of home capital that was locked up in mortgages, it was necessary to attract 500,000,000 or 600,000,000 lire from abroad in order to relieve land owners from the pressure that hindered agricultural progress, which could only be done by a strong institution that should be authorized to lend money on long terms, finally secured the passage of the bill.

Reform of Charitable Institutions.—By the new police law that went into operation at the beginning of 1890 the right of citizens who are incapable of earning their support by their labor to exist without resorting to crime or begging was formally acknowledged, and the bodies were designated whose care it shall be to succor necessitous persons. In this category were included religious confraternities, which were left out in 1862 when a law regulating charitable trusts was enacted. By the act of June 30, 1889, religious foundations, charitable societies, and pious brotherhoods whose revenues are not employed for specific benevolent or necessary religious purposes are required to contribute to the maintenance of the helpless poor. This enactment made it incumbent on the Government to supervise the funds coming within the purview of the law. On Jan. 12, 1890, a royal decree was published, ordering prefects and sub-prefects to investigate and report on all brotherhoods and similar institutions.

The confraternities alone, of which there are 8,487, have a capital endowment of 111,951,011

lire, yielding a gross income of 8,858,943 lire, of which only 1,188,773 lire continued to be devoted to the purposes for which the funds were originally bequeathed. In 1890 there were 11,707 confraternities, disposing of an income of 9,000,000 lire, or 6,000,000 after deducting all charges, of which 3,600,000 lire were devoted to religious observances, often conducing to superstition. The *opere pie* or charitable foundations embraced in the law of Aug. 3, 1863, numbered in 1880, when a thorough investigation into their financial condition was undertaken, 21,766, not counting institutions for lending to the poor or for the encouragement of saving, like *monti di pietà*, savings banks, agricultural loan institutions, etc. Their gross capital in 1880 was about 2,000,000,000 lire, yielding an annual revenue of 88,250,067 lire, which was reduced by liabilities to the amount of 8,299,676 lire, 14,798,067 lire of taxes, etc., and 17,304,880 lire of expenses of administration to 47,917,444 lire. Casual legacies, subsidies from communes for the support of hospitals, and private gifts increased the sum at the disposal of the associations to 95,031,946 lire. Between 1880 and 1888 new bequests added 99,691,046 lire to the endowment funds. Of 40,000,000 lire appropriated by the communes in 1886 for charitable relief 25 per cent., and of 20,000,000 lire similarly devoted by the provincial authorities, 75 per cent., were confided to the *opere pie* for disbursement. These institutions were very unequally distributed in the different sections, and their action was circumscribed as to the objects and manner of relief and the territory of their operations by the deeds of endowment or the statutes under which they were established.

A bill for reorganizing the *opere pie* and placing them under state control passed the Chamber before the end of 1889. The Senate, in which Conservative rather than Clerical influences prevailed, gave its approval to nearly 80 clauses, and even accepted the part of the bill that gave the greatest offense to the Church, namely, the exclusion of parish priests from the local commissions that were to be created for the administration of the reformed charitable trusts, not daring to antagonize the dominant Radical and anti-Clerical sentiment of modern Italy. Having thus conformed to popular opinion on the main issue, the numerous enemies of Crispi in the Senate thought that they could strike a blow at him without incurring odium by attacking a supplementary provision of the bill diverting to charitable uses funds originally given for the celebration of religious rites and other purposes of no apparent public utility. In the vote taken on an amendment striking out this clause, on May 5, the Government was defeated by a majority of 93 to 76. The blow was delivered in the dark, as the vote was by secret ballot. Crispi declared the intention of dissolving the Chamber and appealing to the country, and was doubtless eager to embrace an opportunity to go before the people on an issue that would unite the Radical, Liberal, and Moderate Liberal elements rather than run the risk of an adverse vote on some financial question. The majority of the Cabinet was in favor of giving the Senate a chance to withdraw from its position, although Signor Coppino had resigned from

the Ministry of Public Instruction when the Senate, actuated by hostility toward him, had rejected his bill for unifying the laws of the various once-independent states now forming the Kingdom of Italy in regard to archaeological discoveries and for protecting the archaeological treasures of the country by regulations against exportation, defacement, etc. By the decision of the Cabinet the bill was allowed to go back to the Chamber to be restored to its original form, with the understanding that if the Senate then insisted on excising the clause an appeal would be taken to the constituencies, and that in the new Parliament enough additional Senators would be created to carry the measure. When the bill came back from the Chamber the Senate passed the objectionable clause without demur.

Reform of Local Government.—The burden imposed on the people by the enormous armaments that Italy is obliged to keep up and to continually enlarge as a member of the triple alliance, by the expenditure on railroads beyond present needs, which is also to a great extent a necessity of the military situation, and by the gigantic scheme of the National Government, emulating the institutions of the long-established and wealthy centralized nations, would be easy to bear if they were not supplemented by excessive local taxation, the proceeds of which are very largely wasted. The taxation, which is doing much to check the prosperity and hinder the development of the nation, is indeed more that of the local than of the national authorities, and the chief cause is the general corruption in the communal and municipal administration, made possible by the complicated arrangements of local government and the indifference of the electors, not more than half of whom vote for the delegates, although there is no Clerical abstention, as in the national elections. The Government has hitherto been reluctant to interfere, being deterred by consideration for the principle of local self-government that has always been one of the Liberal tenets. The bankruptcy of the municipalities of Naples and Rome led to an investigation of their affairs and to the intervention of the state at the invitation of the local authorities, and brought up the question of the mismanagement of local affairs everywhere and the necessity for greater central control. In Naples the looseness and corruption with which the finances of the city were found to have been conducted surpassed the worst predictions, and in Rome, while the giving of bribes and subsidies and the pocketing of illegal perquisites were less open and shameless, jobbery and extravagance were quite as prevalent. Of 8,257 communes in the kingdom, more than 5,000 are in debt. There are more than 100,000,000 lire of loans on which the interest exceeds 6 per cent., 3,000,000 lire on which it is more than 7 per cent., and 688,000,000 lire paying more than 10 per cent. The amount paid annually in excess of the legal rate of interest is about 54,000,000 lire. Debts owed by communes to the provincial governments have in several instances been settled for 5 per cent. of the amount or simply wiped out on the ground of insolvency. The Parliament has frequently by special legislation authorized communes to exceed the statutory

limit of taxation. In rural communes it has been the practice to make appropriations for private roads and other works that are of no benefit to the commune or to the peasants who pay the taxes, but only to individual wealthy and influential proprietors, a class that habitually evades its fair proportional share of taxation. In Naples an immense sum of taxes was reported impossible of collection because the persons taxed could not be found, and yet when the names were made public by the Government investigation they were found to include some of the most prominent citizens. Embezzlements by communal treasurers were sometimes covered up by secretly appropriating a sum to balance the peculations, and in Naples the councilors voted money for such purposes as the education of their sons or simply as gratuities to municipal officials.

The Mayor of Rome, Signor Armellini, addressed a letter to the Secretary of the Interior on the condition of the finances of the city, in which he urged the imperative need of state assistance. Not only would the Government have to provide the money to pay interest on the loan of 150,000,000 lire that it had guaranteed, but to take over the work of erecting or restoring numerous public buildings, the regulation of the Tiber, and the building of streets and bridges, or provide means for carrying out these improvements under state supervision. The city was at the end of its resources, being compelled to impose new taxes to meet current expenses. As the result of an inquiry into municipal affairs, a bill was proposed by Signor Crispi, the provisions of which were so repugnant to the members of the existing Municipal Council that they decided to resign in a body. In the Chamber the bill was hotly debated, and Menotti Garibaldi, protesting that discussion was stifled, resigned his seat on June 30 in order to consult the sense of his constituency. The Irredentists, whose indignation against the Government had been freshly excited by its seeming indifference to the suppression by the Austrian authorities of the society called *Pro Patria*, the ostensible object of which was to preserve and encourage the use of the Italian language in Trieste and Trent, set up, by way of protest, a journalist of Rome named Barzillai, who was a native of Trieste. At the last moment the Government put into the field as the official candidate Count Antonelli, recently returned from Africa. The exciting questions discussed with so much animation in the Chamber made no impression on the voters, who bore a smaller proportion than usual to the number on the register, not more than one sixth of the voting population going to the polls. Garibaldi received an insignificant number of votes, and in the second election, Antonelli not having obtained an absolute majority on the first ballot, the result indicated that the Radical, Conservative, and other Opposition parties, even including the Clerical abstainers, could not together muster one third of the voters. Shortly before the election Signor Fortis, a Radical, who had entered the Cabinet as Under-Secretary of State in the Interior Department in the hope of inducing a section of his party to join the ministerial ranks, or at least to cense a factions opposition, retired because he had failed in his task.

The General Election.—In September Signor Seismit-Doda, the Minister of Finance, was dismissed from office because he attended a banquet at Udine at which strong Irredentist tendencies were manifested. In discussing the renewal of the triple alliance, which expires in 1892, Signor Crispi is said to have asked for the cession of a part of the Trentino, and to have met with a refusal from Count Kalnoky and strong objections from the side of Germany to making the alliance depend on Italian Irredentist claims. In October the visits of the police and sanitary authorities to convents in the vicinity of Naples and the release of inmates of the convent popularly called *Sepolte Vive* ("buried alive"), who had first entered the institution under compulsion, afforded a new cause of irritation to the Church. Expectations that the Clerical party would take an active part in politics were aroused in the early part of 1890, but without reason. The Chamber was dissolved at the close of the long session of 1889-90, and new elections were ordered to take place in November. In an important speech at Turin, reviewing the course of his administration, Signor Crispi made a statement regarding the financial situation that placed it in a somewhat less favorable light than earlier estimates. The budget of 1889-90 closed with an estimated deficit of 74,000,000 lire. The deficit for 1890-91, owing to diminished receipts from duties on cereals, railroads, and the taxes on commercial transactions, the deficit, instead of 11,000,000 lire, would be 25,000,000 lire. There would be a smaller deficit in the succeeding year, and in order to banish it from future budgets the Government would demand the simplification of the public services and the distribution over longer periods of the outlay on public works, and would, furthermore, introduce improvements in the methods of collecting taxes. Appealing to the working-class vote, the minister promised, in addition to accident insurance, to propose a national pension fund for aged workmen and a council of masters and men for the settlement of labor disputes. In regard to the military situation, he spoke of the triple alliance as enabling Italy to do with lighter armaments than would be necessary if she still occupied an isolated position. Not being able to secure a general European disarmament, Italy would commit a perilous act if she reduced her armaments, which were, moreover, purely defensive.

The result of the elections was beyond expectation favorable to the ministerial party, which elected 410 candidates. The Extreme Radicals secured only 37 seats, and the remaining 61 fell to the Conservative or Constitutional Opposition. The gift of 100,000 lire from the Franco-Italian economist Cernuschi toward the election expenses of the Radicals was no benefit, but a serious drawback to their canvass. In Rome all the Government candidates were elected except one, who was beaten by the Irredentist Barzillai. Andrea Costa, who was a fugitive in France, was re-elected in Ravenna and Bologna. As the candidate of the minority in Rome, Prince Odescalchi, a Monarchical Socialist, was elected. The fierce opposition of the Radicals, who exerted all their energies in the contest, the result of which showed how inferior they are in numbers to the adherents of the policy adopted by Crispi from

his predecessors, was a personal one directed against him, whom they regard as a renegade because he had drifted from the Extreme Left to the Center, cut loose from the Irredentist tendencies that he had formerly exhibited, and on social and political questions courted the approval of the Moderate Right rather than carry out the views of his former party associates. The Extreme Left is split into the two irreconcilable factions, the Socialists and the Radicals being at war with one another, and even the latter are divided on the questions of Irredentism and the continuance of the triple alliance. Republicanism is still in the theoretical stage, and does not enter into practical politics otherwise than in the manifestation of sympathy and fraternal feeling for the French and hostility to the Austro-German league with the Italian monarchy. The general sentiment was pointedly expressed in Crispi's famous phrase: "The republic divides us, and the Monarchy unites us."

The New Chamber.—The increased numerical strength of the Government party was less favorable for its harmony and cohesion than a reduced majority would have been. Discord in the Cabinet had led to the summary removal of the late Minister of Finance before the elections took place. Signor Seismit-Doda, who belonged to the Radical wing of the Cabinet, growing restive under the movement of the center of gravity toward the Right through Crispi's unmistakable moderate tendencies, attempted to organize a reactionary movement toward Radicalism. When he committed himself so far as to listen without protest to anti-Austrian speeches at a public dinner of the Irredentists, Signor Crispi sent a request for his resignation. Doda, who had already had differences with the president of the ministry refused to resign except to the ministry as a whole, hoping thereby to create a split in the Cabinet, and perhaps to get a majority to uphold his right to follow an independent political course. Crispi met this emergency by obtaining the signature of the King to a decree curtly dismissing him and intrusting his portfolio provisionally to the Minister of the Treasury, Signor Giolitti. On the eve of the assembling of the new Chamber Giolitti, being unable to approve certain public undertakings that Signor Finali, the Minister of Public Works, considered indispensable for the protection of agricultural interests in parts of the country subject to inundations, resigned from the ministry on Dec. 8, when his economical views were not accepted, and Signor Grimaldi was appointed to succeed him, taking the portfolio of Finance and provisionally that of the Treasury.

The Parliament was opened by King Umberto on Dec. 10. The speech from the throne declared that, the military reorganization having been completed within defensive limits, Italy felt sure of herself. In regard to the question of the relations between Church and state, the Italian monarchy, which is founded on the will of the people as well as on traditions, is a pledge of peace and liberty, and will not be allowed to suffer derogation in the name of religion. With reference to the financial situation, retrenchments in the administrations and the reorganization of the system of taxation were all that

would be necessary to effect an equilibrium. Signor Crispi announced in a meeting of his supporters that the Government would be able to do without fresh taxes. His determination to pursue a conservative policy and resist innovations was evidenced by his selection of the 89 new members nominated to the Senate, the majority of whom were taken from the Right Center. The Minister of War resigned a few days after the Chamber met, and was succeeded by Gen. Pelloux.

The Radicals forced a conflict at the opening of the session, the result of which, though the attack was bold and well planned, was a more decisive defeat than any that they had sustained in the former Parliament. Signor Imbriani offered a resolution implying that the Prime Minister had acted unconstitutionally in dismissing Seismit-Doda by royal decree, and that the subsequent retirement of Giolitti furnished additional proof of his tendency to override his colleagues in the Cabinet and govern dictatorially. By shrewd tactics Crispi confined the debate to one phase of the question, and having drawn from Seismit-Doda a defense of his presence at the banquet, he quoted from speeches made there to show that the continuity and success of Italy's foreign policy was at stake and the dignity of the Cabinet lowered by the act of the late Minister of Finance. He asked for a motion of confidence, which was made and immediately voted by a majority of 271 against 10. The other Radicals left the Chamber because the constitutional question was avoided by the premature ending of the debate.

Colonial Possessions.—The belt on the west coast of the Red Sea belonging to Italy, with rear country of undetermined depth, has been given the name of the colony of Erythrea. The coast line of about 620 miles extends from Cape Kasar, in 18° 2' of north latitude, to Cape Sinthiar, in 12° 50' of north latitude. The western frontier of the Italian possessions is about 38° east from Greenwich. Part of the territory has been occupied and declared to be under Italian sovereignty, and over the rest a protectorate has been proclaimed. Erythrea comprises Assab and its territory, having a length from north to south of about 80 miles; Massowah and neighboring isles, with the coast from Emberemi to the peninsula of Buri; the Dahlak Islands and the protectorates of the Danakil coast, the sultanate of Raheita, and the countries of the Habab, Boyos, and Beni-Amer tribes. Italy has reserved for herself as against other European powers the protectorate of the sultanate of Aussa or Haussa and its dependencies.

In virtue of the treaties of May 2 and Sept. 29, 1889, the Government of the King of Italy represents the Negus of Abyssinia in all his external relations. The diplomatic agent at the court of the Negus in 1889 was Count Salimbeni. On May 17, 1890, a peace was signed at Adua with Ras Mangascia, nephew of the late King of Ethiopia, who for some time held the province of Tigreh against King Menelek.

On the coast of the Indian Ocean, the part of the Somali coast north of the mouth of the Jub near the equator as far as the beginning of the British Somali protectorate of Cape Hafun, in 8° of north latitude, inclusive of the sultanate of

Obbi or Oppia, has been taken under the protectorate of Italy. Negotiations are pending for the transfer of the stations on the coast belonging to the Sultan of Zanzibar.

The imports into Massowah by land and sea in 1889 amounted to 12,939,957 lire. Of 2,065 vessels, of 200,997 tons, arriving at the port, 1,241 were Italian, and of 1,871 that sailed, of the aggregate capacity of 211,142 tons, 1,200 were Italian. A line of railroad, 17 miles long, is in operation at Massowah between M'Kulu and Saati, and another railroad has been built from Abd-el-Kader to Arkiko. The colonial army of Italy comprises two battalions of rifles, a battalion of *bersaglieri*, a company of fortress artillery, a mountain battery of 4 guns, a company of mechanicians, a company of sappers, a company of railroad troops, a signal corps, a company of sanitary troops, a commissariat company, and a company of train, numbering altogether 109 officers and 3,096 men, with 371 horses. The native troops comprise six battalions of infantry, two squadrons of scouts, a mountain battery with 6 guns, and a force of police, numbering altogether 114 officers, of whom 74 are Italians, and 3,794 men. The town of Massowah has a population of 16,000 people, of whom 500 are Italians (exclusive of the military), 700 Greeks, 50 Europeans of other nationalities, and 100 East Indian Banians. Prof. Guido Cora has estimated the area of the regions in Africa under Italian sovereignty, protection, or influence at 336,070 square miles and the population at 5,958,800. To the country around Massowah under immediate Italian jurisdiction, including Keren and Asmara, he assigns an area of 3,100 square miles, with a population of 250,000; the Dahlak archipelago has an area of 420 square miles and 2,000 inhabitants; the Assab territory is 550 square miles in extent, and its population is 6,800; the territory of the protected Hababs and other tribes is estimated to embrace an area of 18,000 square miles, with 200,000 inhabitants; the territory of Afar or Danakil, inclusive of Aussa, is estimated at 34,000 square miles, with 200,000 population; the Somali coast and a tract extending into the interior as far as Wadi Nogal and Mudug has an estimated area of 90,000 square miles and a population roughly reckoned at 300,000; and Abyssinia, with Shoa, Kaffa, Harrar, etc., has an extent of 190,000 square miles, with an estimated population of 5,000,000.

In north Somaliland the Germans were rivals of the Italians before they abandoned their pretensions in this region to the English, who immediately entered into an arrangement which enables Italy to round off her protectorate over Abyssinia and adjacent countries while leaving England in command of the approaches to the Nile regions. In visiting Uba, near Warsheik, for the purpose of offering presents to the Sultan, whose territory had been proclaimed an Italian protectorate, Lieut. Zavagli, of the navy, was killed by the natives on April 24, 1890. The position of the Italians at Keren and Asmara was menaced in the early part of the year by the hostile movements of the dervishes of the Sudan. Abu Kerdja, Emir of Tokar, made a raid on Taklai, on the border of the Habab country, and was repulsed. Simultaneously Osman Digma advanced from Kussala against the Beni-

Amer tribe. Evidently a concentrated movement was planned between the secret and open enemies of the Italians and the dervishes to fall upon the occupying force, which was remote from the base of operations, and drive it out of Bogosland. These events suggested the advisability of extending the defensive frontier by gaining possession of Kassala, which was coveted for the further reason that it would extend the field of trading operations into a new region capable of great development. However important the co-operation of the Italians would be for the ultimate pacification of the Soudan, the English were unwilling to admit a commercial competitor into a region reserved for British exploitation. After African delimitation treaties had been concluded by England with Germany and France, the Italian Government proposed a conference to settle the boundaries between its possessions on the Red Sea coast and the British sphere. The negotiations were intrusted to Sir Evelyn Baring, the British agent in Egypt, who went to Italy in September, 1890, accompanied by Gen. Sir Francis Grenfell as his adviser on the military aspects of the controversy. The Italian Government proposed that the line should be drawn about half-way between Suakin and Massowah. The English were entirely willing to concede the coast district claimed, as it is of no value, either strategically or commercially, but none of the *Hinterland*, which would include Kassala and Atbara, and if extended westward would take in the Blue and White Niles and their junction at Khartoum. The Nile regions Italy had no intention of claiming, for it belongs geographically and historically within the Egyptian sphere; but by the same titles she claimed Kassala as a necessary part of the sphere in which she had established her influence with the approval of Great Britain. Ethnologically, it forms part of the domain of the Beni-Amer and other tribes taken under her protection and subsidized at a heavy cost as a bulwark against the dervishes. Without it her dominion over these Arab tribes could never be consolidated, but would be disputed and remain always a subject of contention and a cause of friction between Italians and Englishmen, although without their allegiance the port of Massowah would lose much of its value. The commercial importance of Kassala is very great. The Italians if established there could tap the trade of the Soudan and draw a large part of it to Massowah. Before 1882 much of the trade was actually centered in this place. From the strategical point of view the possession of Kassala was regarded by the Italians as indispensable to the security of their advanced positions at Keren and Asmara so long as these were threatened by Osman Digma. The English were disposed at first to urge the strategical importance to themselves of a position that flanked the Berber route and, if held by a foreign power, menaced Khartoum, but abandoned this argument, which they could not put forward with good grace after having conceded still more commanding military positions to Germany as soon as a better one was furnished by the Egyptians, more particularly the element hostile to England, who raised an outcry against the surrender of any part of the former dominion. In Italy the agitation was re-

garded as unreasonable and perhaps a factitious one fomented for the purposes of the moment. Kassala was never anything more to Egypt than an outpost against Abyssinian aggression, which need be no longer feared since Abyssinia is under Italian influence. The Italian minister urged that Kassala is the key of Abyssinia, and that so long as it is in the possession of the dervishes, Abyssinia, for the safety of which Italy is responsible, is in constant danger of attack. He, therefore, asked that either Egypt or England should go to Kassala; in which case the Italians would have neighbors that they could trust, or that England should give consent to its military occupation by the Italians. The views of the two governments being so divergent, the Italian representative proposed, as a temporary arrangement, that his Government be allowed to occupy and hold Kassala with its troops for its own protection, since the Anglo-Egyptian authorities could not maintain peace and order. Sir Evelyn Baring was willing to accept this compromise, provided the Italian Government formally acknowledged the Egyptian right to Kassala, and would engage to withdraw its garrison and hand over the place to Egypt as soon as the Egyptian Government should send troops to occupy the district. For the capture of Kassala an expedition would be required that might entail heavy sacrifices, and therefore the Italian Government would not agree to restore the town to Egypt and abandon the claims of Abyssinia after performing the work that belonged to Egypt if her claims to the place were just, but offered to reserve all rights that Egypt now possessed, and leave the question after the object of the occupation had been accomplished in the same position as at present. Italian forces would take Kassala and continue the occupation until Egyptian or English troops were ready to resume possession, when the question would be made the subject of negotiations. Neither Government was willing to make further concessions, and at this point the conferences were broken off on Oct. 10. A few days afterward the Sultan of Turkey sent out a diplomatic note of the same tenor as the one issued at the time of the Italian annexation of Massowah, declaring that no one is entitled, without his assent as suzerain of Egypt, to acquire or cede any part of the Egyptian dominions. In an incidental allusion to Tripoli, he said that he would defend it against foreign occupation as long as he has a ship or a soldier left. An arrangement with England was subsequently made, allowing Italian troops to be sent to Kassala.

The Italian Government hopes to divert a large part of the emigration to Africa and to develop a trade that will bring in rich returns to Italian industry and commerce. The cost to the Government of the colonial enterprise from 1882 to 1890 was about 100,000,000 lire. Gen. Gandolfé, who was appointed civil and military Governor of the possessions on the Red Sea, announced when he entered on his office on July 1, 1890, that military rule was at an end, and that he would endeavor to make the people understand the benefits of civilization, adding that he would respect all religious beliefs and protect the interests of natives and Europeans alike.

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JAPAN. The Empire of Dai Nippon, or Japan, is a constitutional monarchy, at the head of which is the Emperor, Mutsuhito, born Nov. 3, 1852, and reckoned the one hundred and twenty-third in the line of mikados or sovereigns of Tei Koku Nippon ("Japan, the country of the theocratic dynasty"). The Empress, Haruko, was born May 29, 1850. Of eleven children born to the Mikado, all by imperial concubines, only three are living. A princess was born Jan. 28, 1890, and two princes are living. The crown-prince, or heir-apparent, Hara-no-Miya, was formally invested with the title and dignities of his station Nov. 3, 1889. For some years, after the fire destroyed the imperial residences in Tokio, the Emperor and court had their residence in the mansion of the *ex-Daimio* of Kiushiu; but, on Jan. 11, 1889, the removal of the imperial family to the new and splendid palace was accomplished.

Government.—The Japanese national administration is now fully differentiated in the three great forms—executive, legislative, and judicial. Associated with the Emperor in the executive are the Imperial Cabinet or Privy Council, consisting of 18 members; a Council of State, consisting of 10 heads of administrative departments; and the Bureau of Railways. In 1887 there were 213 first-class functionaries appointed by the Emperor, 7,181 assistants of the *so-nin* class, appointed by the Council of State, and 22,729 persons appointed by the heads of departments, making a total of 22,729, or, including the employés of the *to-guai* class, 31,729. Other subordinate branches of the executive are the prefecture of police, department for the colonization of Yezo, or Hokkaido, the prefectures and districts of the empire, and the under prefectures, with officers and subalterns numbering 78,186. All these, except 33,686 persons who are paid out of local taxes, draw their salaries from the national treasury, as do also the 53 members of the legations and 91 members of the consulates abroad.

The legislative department consists of an Upper House, or House of Peers, and a Lower House or House of Representatives, which met for the first time in Tokio in the new and magnificent National Assembly buildings, Nov. 25, 1890.

The judiciary consists of 1 Supreme Court, or Court of Cassation, 7 courts of appeal, 99 courts of first instance, and 194 peace tribunals. The lower courts have jurisdiction over claims amounting to less than 100 yen, together with criminal jurisdiction over police officers. The courts of first instance deal with cases involving 100 yen or more, with jurisdiction over minor offenses and with power of preliminary examination into both major and minor offenses. The courts of new trials hear appeals from the courts of first instance on questions of law and fact, and sit as courts of criminal jurisdiction for the trial of minor offenses. The Court of Cassation hears appeals on points of law, both civil and criminal, whether errors in matters of jurisdic-

tion, misinterpretation, and misapplication of law, or violation of the rules of procedure. There are 501 judges in the peace tribunals, 673 in the courts of first instance, 70 in the courts of appeals, and 25 in the Court of Cassation, or a total of 301 courts and 1,269 judges. There are also 422 public prosecutors, 1,404 clerks and subordinates, and 1,959 employés of various grades, making in all 5,059 persons. There are 193 prisons.

Japanese law, so far as written, has at no time been the genuine outcome of the national life. In the seventh and later centuries Japan borrowed the codes of China, which were formed during the Tang and Sung dynasties. During the era of Meiji, which began in 1868, the legislative activity has been very great in the direction of borrowing from Europe. The question of codes has long been involved in the politics of treaty revision, and the able men of Japan are divided into two parties on the question of pro-codification and anti-codification. Those who favor codification are the men in power; those who oppose it are the so-called "nationalists." The criminal code and the code of criminal procedure, based on the *Code Napoléon* but modified by the old native criminal law, were drafted by M. Boissonade, an able French lawyer, and published in 1880, coming into force in 1882. The civil code, the code of civil procedure, and the commercial code, are about to be published. Crimes are classified as—(1) against the state or imperial family and in violation of the public credit, policy, peace, health, morals, etc.; (2) against person and property; (3) police offenses. The subdivision is into major and minor crimes. The punishments for major crimes are death by hanging, deportation with or without hard labor for a term of years or for life, and imprisonment with or without hard labor for a term or a lifetime. Minute statistics of public justice are published annually. In 1889 the sentences were: To death, 66 persons; to penal servitude, 716; confinement, 1,138; imprisonment, 86,726; correctional fines, 24,364; attachment, 641; fines, 2,945; confiscation, 3. The number of persons acquitted was 7,879. The system of trial in both civil and criminal cases is almost wholly inquisitorial. Counsel do not so much defend their clients as represent them, and questions by counsel must be put through the judge, who conducts the trial alone. Witnesses are sworn, but the oath, being unconnected with any religious sanction, is rather a solemn asseveration. The proceedings of the trial are recorded in writing, though not in the exact words used, as the Japanese literary style does not admit the colloquial. At present the judges are almost wholly men trained in the old procedure that was in use before the introduction of foreign systems, their knowledge of the customs and peculiarities of their countrymen serving them better than the more theoretical knowledge of the rapidly increasing army of young lawyers. Judges are appointed for life, their salaries varying from 700 to 4,000 yen per annum. The president of the

Court of Cassation receives 5,500 yen and is of the rank appointed by the Mikado. Besides the law college of the Imperial University there are eight private law schools, from all of which about 1,000 lawyers are graduated annually. Candidates for judgeships pass two competitive examinations. A periodical for reporting law cases throughout the empire is now published in Tokio.

Population.—The annual examination by the Home Department of the population in Japan on Dec. 31, 1889, shows a total of 40,072,020 natives, of whom 20,245,336 were males, and 19,825,684 were females. Classified according to rank, there were 3,825 nobles, 593 being heads and 3,232 members of families; 1,993,637 gentry, of whom 430,411 were heads, and 1,563,226 were members of families; and 38,074,558 common people, of whom 7,736,764 were heads, and 30,337,794 were members of families. These figures show an increase of 38,046 houses, and 464,786 persons, as compared with the previous year. Of persons over ninety years of age, there were 5,318, females being largely in the majority. There were 7,745,119 couples; and 25,181,782 single persons, of whom 12,801,217 were males, and 12,385,065 were females. Of the 1,209,910 births, 617,863 were males, and 592,047 were females. Of the 808,680 deaths, 413,926 were of males, and 394,754 were of females. Still-born children numbered 85,251. There were 340,445 marriages and 107,478 divorces. During the year 15,711 Japanese went abroad. The population of Tokio is 1,376,285.

Finances.—The estimates of Count Matsukata Masayoshi, Minister of Finance for the twenty-third year of Meiji (1890-'91) were sanctioned by the Emperor March 3, 1890. The standard of value used is the silver yen, worth about 80 cents in American money. The total revenue is fixed at 81,980,081.42 yen, and the total expenditure at 81,978,578.69 yen. The maximum amount of exchequer bills to be issued during the twenty-third fiscal year will be 14,960,000 yen. The items of ordinary revenue are: Land tax, 39,530,378 yen; taxes on saké brewing, 15,158,953 yen; on tobacco, 1,825,183 yen; on soy, 1,272,043 yen; customs duties, 4,175,542 yen; the remainder of the total of 66,327,507 yen being obtained by taxes on incomes, yeast, confectionery, rice exchanges, stock exchanges, national banks, patent medicines, shipping, vehicles, weights and measures, marine products of Hokkaido (Yezo), and by stamp duties, shooting licenses, and licenses for the purchase and sale of cattle. Other items of ordinary revenue are: Fees and licenses, 1,583,491; receipts from Government industries and properties, 8,178,181; miscellaneous receipts, 644,239. The items of extraordinary revenue amount to 5,246,662 yen, completing the grand total of very nearly 82,000,000 yen revenue.

Among the expenditures are: For the imperial household, 3,000,000; foreign affairs, 844,636; Department of the Interior, 6,634,678; Department of Finance, 30,614,041; War Department, 11,833,265; navy, 6,053,045; justice, 3,787,062; education, 987,077; agriculture and commerce, 1,013,382; communications, 4,411,892, making a total of 69,179,082 yen for ordinary expenses, the extraordinary expenditures amounting to 12,799,496 yen; the two making a grand total of

very nearly 82,000,000 yen to be expended. The report of the director of the mint at Osaka, March 31, 1889, shows that the amounts of bullion imported into the mint were: Gold, 135,304.16 ounces, of which 71,931.20 ounces were for conversion into fine gold ingots for the imperial treasury; silver, 7,717,439.88 ounces, (both metals being 900 standard); and copper, 25,796,956.78 ounces. Since the mint was established to March 31, 1889, the coinage has amounted to 161,319,828.74 yen, of which 161,236,992.34 yen have been for circulation. The Japanese currency consists of gold, silver, nickel, copper, and paper; but the gold is rarely seen. The system is decimal, and there are one coin and three denominations lower than the *sen* or cent. The Government accounts take note only of the *rin* or mill which is represented by a wafer-like copper coin. The nickel piece is a half-dime. Shop-keepers often keep accounts to the hundreds and thousandths of a cent. The imperial mint at Osaka, and the paper-money factory in Tokio, are operated wholly by native Japanese. Paper money now circulates *à par*. The total of the domestic and foreign debts contracted since the restoration of 1868 is 399,000,000 yen, of which sum 145,000,000 yen has been repaid. Of the 254,000,000 yen still to be paid, only 5,000,000 yen is foreign debt. It is calculated that in thirty years the national debt will be expended.

Public Works and Improvements.—The light-house service now comprehends 65 light-houses and light-ships, and 19 buoys and 10 beacons, of which three in the first number were added in 1889. On April 9, 1890, the opening of the canal that unites the waters of Lake Biwa with those of the Bay of Osaka was celebrated with imposing ceremonies. This is the completion of a work talked of since the twelfth century. The length of the main canal is $5\frac{1}{2}$ miles, for which 3 tunnels, 2,680, 137, and 934 yards long respectively, have been cut through mountains. The main canal is then divided into two branches, one branch for navigation descending 120 feet in 1,800 feet to the plane of the city. Boats are set in a wheeled cradle and pulled up and down by a wire hawser worked by the water power from the canal above. A stretch of canal 60 feet wide and 5 feet deep finally joins the Biwa water to Kamo-gawa river, and thus to Osaka bay and the Pacific Ocean. The total length of this, the main canal, is $6\frac{1}{2}$ miles. The second branch at the head of the incline is carried through 3 tunnels over valleys on 14 series of arches, and over 2 rivers, terminating at Kogawa at the north extremity of Kioto, with a total length of $5\frac{1}{2}$ miles. The canal carries 300 cubic feet of water per second, of which 250 cubic feet are to be used as mill power with a fall of about 120 feet. With one large water wheel used as prime motor, electricity aids to carry the power to the manufacturing parts of Kioto. The cost of the works is borne partly by national and partly by local taxes.

There are now in Japan 44 post and telegraph offices of the first class, 17 of the second class, and 163 of the third class, with 25 telegraphic agencies at railway stations.

The Third National Exhibition of Japanese products of industry and art was opened by the Emperor, March 26, at Ueno Park in Tokio,

and on July 10 the awards were made in his presence. The number of exhibitors was 170,000; judges, 200. Of the awards in medals, 7 were honorary, 176 progressive, 210 for excellence, 3,965 of merit, 15 of approval, and 11,779 certificates of merit were issued. The number of visitors averaged 13,000 a day.

The one thousandth mile of railway was completed in the summer of 1889, and active work proceeds both under Government and private auspices, the thirteen hundredth mile being passed at the end of 1890. The system, when completed on the main island, will comprise a trunk line from Awomori to Shimonoseki, the Dan and Beersheba of Honda, with two large branches connecting Kioto and Tokio with the rich provinces of the western coast, with minor branches into the populous districts surrounding the largest cities. The three islands—Kiushiu, Shikoku, and Yezo—will have their local lines. The latter already possesses one of American equipment, and with the construction and superior cheapness characteristic of American work. Japan is not naturally suited to railways, and the engineering difficulties are great, though labor is cheap. In round numbers, the cost to the Government for railways since 1872 has been \$30,000,000. The net profits for the year ending March 31, 1889, were slightly over 4 per cent., the passengers numbering 8,404,776, and the freight carried amounting to 616,913 tons. The subject of public highways, their construction, maintenance, and improvement has received unusual attention of late from both the General Government and the local authorities. The total length of the national routes, or high roads leading from the capital to the prefectural chief cities, great military headquarters, or to seaports open to foreign commerce, is 10,667 miles, and of the local or departmental highways, 16,894 miles. In 1888 there were in use 2,215 private carriages, 14,987 vehicles drawn by horses, 190,819 man-power carriages, 575,184 minor wheeled vehicles, mostly push-carts, and 6,929 ox carts, making a total of 790,134 vehicles. In 1887 486 steam vessels in European form, of 72,322 tons burden and 16,641 horse-power, with 798 sailing vessels of 60,975 tons burden, and 17,194 vessels on Japanese models, of 14,256,235 bushels capacity, and 546,677 boats were used for water transportation; and managed by 63 sea, and 66 lake and river navigation companies, whose capital amounted to 15,416,956 yen, and whose employes numbered 12,515 persons. In 1887, 403 ships were wrecked, 119 badly and 9 partially damaged. The length of telegraph wire used at the end of 1889 was 16,808 miles, the number of messages for that year being 3,149,170 in Japanese and 63,364 in foreign languages. There were in all 311 telegraph offices open for public business, including 16 telephone offices, the arrangement for telephone exchanges in all the large towns being now concluded. The cost for a single written message of ten *kana* characters to any part of the empire is fifteen cents, and for city local traffic five cents. Telegrams in a foreign language to any part of Japan are at the rate of five cents a word. Messages are delivered free within a radius of 1 *ri* (2½ miles) of the telegraph office. The Japanese mind, next to politics, seems to delight in finding channels for

industrial activity. In 1889 45 railways, steam-tram, or electric were planned, but only 8 charters were given by the Government. Schemes for canal and harbor construction, for mining development, and for electric lighting, are rife, some of them yielding good returns. The improvement in the spinning industry is notable, there being now 36 mills with 200,000 spindles. In 1887 2,059 various societies employed 69,050, 468 yen capital.

The Imperial Diet.—The national elections, after due elaboration of preparatory details, took place on July 1 amid great interest, but also with quiet and decorum. The electorate is composed of males who pay fifteen dollars annually in national taxes, and about 94 per cent., or 574,308 voters, availed themselves of their privileges at the poles. The average number of candidates for each seat in the House of Representatives was three, though in the large cities ten, twelve, or fifteen persons frequently contended for one seat. No one holding the rank of nobleman can sit in the Lower House. One native editor classified the 300 elected gentlemen and commoners as "practical" and "speculative." In the former class, numbering 162, are 125 farmers, 36 business men, and 1 manufacturer. Among the 138 "speculative" men are 24 lawyers, 16 newspaper writers, 5 teachers or literary men, 4 physicians, 19 men in Government employ, and 70 classed as "miscellaneous." The "practical" men are in the majority. Many of the so-called farmers are highly educated land owners. A notable proportion of representatives have been graduated at the Imperial University or have studied abroad. Almost without an exception the dress worn is the European. In the composite House of Peers, so called, are five classes of sitters, from princes of the imperial blood to commoners. The imperial princes, or members of the imperial family, 9 in number, average forty-three years of age. In the second class, or princes, there are 10 persons, 6 of whom were formerly nobles of the court, while the others are heads of the great clans or houses of Tokugawa, Satsuma, and Choshu, which have played so prominent a part in the feudal history of Japan. The third and largest class consists of marquises, counts, barons, and viscounts. Among the 21 marquises are 9 former court nobles, 2 nobles of recent creation, 1 ex-King of the Riu-Kiu (Loo-Choo) Islands, and 9 ex-daimios (3 belonging to the house of Tokugawa, whence came the "Tycoons") of the former prominent class or feudal organizations. Out of 84 counts 15 have been elected to the House of Peers, and among the chosen number are 6 nobles of ancient prestige and 3 of new creation, with 6 ex-daimios. Of 87 barons, 20 were elected to sit, and of these 10 are nobles of new creation, 6 ex-priests of imperial temples, and 4 were former members of the feudal or landed nobility. Of the 297 viscounts, 70 persons, consisting of ex-daimios, ex-court nobles, and nobles of new creation, were elected to sit as legislators. In this last group of the third class are many of the most interesting characters in recent Japanese history, the list of viscounts being notably full of able and promising men. The fourth class consists of men of intellect and learning, nominated by the Mikado, who sit for life. The number of these ap-

pointees, together with those in the fifth class, must not exceed the whole number of those holding titles of nobility. The list of nominees was officially promulgated on Sept. 30, and among the 56 names are 32 of naval, military, senatorial, or other official persons in Government pay or employment; 17 of men of erudition, all in Government positions as senators, judges, educational directors or professors; and 6 of "practical" men, all of them presidents of banks or commercial companies. The fifth class consists of members who may be nobles, gentry, or commoners, one from each of the 45 prefectures chosen by the 15 voters paying the highest taxes. Of the 45 elected, 33 are commoners, 11 gentlemen, and 1 is a noble; in occupation 22 were farmers, 16 merchants, and 7 miscellaneous. The House of Peers, as now composed—some slight changes having taken place since the elections in the Nobles' Club—consists of 9 members of the imperial family, 31 princes and marquises, 105 counts, viscounts, and barons elected by members of their respective orders, 56 members nominated by the Emperor, and 45 persons elected by those paying the largest taxes, making a total of 246. As the number of members possessing titles of nobility is 136 against 101 members of the two latter classes, there are 35 seats yet to be filled by the Emperor by nomination as occasion requires. In the House of Representatives are 109 *shizoku*, or gentry, and 191 *heimin*, or commoners, the latter making two thirds of the whole. When it is remembered that twenty years ago the common people had no political power and few rights, and that now two thirds of the House of Representatives and one seventh of the final and total number of the Upper House, or "House of Peers," are commoners, the advance in popular liberty is very notable. In the House of Representatives each member represents an average of 131,278 units of population and 307,500 yen of public revenue. The *gun* (sub-prefecture or township) is taken as the standard of representation, or average of 120,000 persons. The *gun* has usually from 100,000 to 150,000 units of population. When a *gun* had less than 100,000 population, it was merged with one adjoining it, and two members allowed. Thus it eventuated that 257 election districts (43 sending 2 members each) exactly met the requirements of the general plan. Some of the prefectures sent all *shizoku* or gentlemen, others sent only commoners. The extremes of wealth are shown in one member paying 15 yen in annual national taxes and another paying 2,260 yen. In one *gun* 52 electors chose 1 member, in another 1,288 electors chose 1 member. Of the 300 members, 10 are over sixty-two; 59 are between forty-eight and sixty-one; 40 between forty-four and forty-seven; 99 between thirty-eight and forty-three; 85 between thirty-two and thirty-seven; and 7 between thirty and thirty-one years of age; the classification being based on Japanese chronological periods.

The buildings of the National Assembly having been completed chiefly on the model of the American national legislative edifice, with electric lights and modern systems of daylight and ventilation, the Imperial Diet met in Tokio on Nov. 25. The opening ceremonies were held in the chamber of the House of Peers, most of the

members of the Upper House wearing their full official costume and decorations, the representatives appearing in European evening dress. The Mikado opened the proceedings, and the House of Peers at once divided itself by lot into nine sections, each section electing its own chief and director, and then adjourned. Count Ito Hirobumi, who had the principal hand in the formation of the Constitution and who wrote a volume of commentaries upon it, is President of the House of Peers. All but 8 of the 300 members of the House of Representatives were in their seats at the opening, and balloting for three candidates each, for speakership and vice-speakership, proceeded during eleven hours, without even a recess, the Constitution requiring that those names presented to the Emperor as candidates for these two offices should receive a majority vote. The Emperor confirmed, or nominated, as Speaker and Vice-Speaker those receiving the highest votes. The Speaker is Nakashima Nobuyuki, of the Radical party, a Tosa man of great political experience, a member of a Presbyterian Church, and an active Christian. Next in influence is Shimada Saburo, an editor, and author of a remarkable historical work entitled "Narrative of the Opening of the Country," of the Liberal party, also an active Christian. In politics the Diet is divided into many parties, which may be summarized as Radical, Liberal, and Conservative. A large majority is hostile to "the Government," or the men in power. All parties except the Conservative seem committed to the idea of enlarging the electorate and increasing popular rights. "The Government" as yet controls six sevenths of the revenue, according to Article LXVII of the Constitution, which reads: "Those already fixed expenditures based by the Constitution upon the powers appertaining to the Emperor, and such expenditures as may have existed by the effect of law, or that appertain to the legal obligations of the Government, shall be neither rejected nor reduced by the Imperial Diet without the concurrence of the Government." At present the Diet can control absolutely only about 7,000,000 of the 82,000,000 of the budget for 1890-'91.

Notable Events.—The new ministry formed on Christmas day, 1889, still continues in power. One of the first events following their appointment was the shifting in office of about twenty governors of provinces. A new fishery convention was concluded between Japan and Corea in January. The first anniversary of the promulgation of the new Constitution was duly celebrated on Feb. 11. The Government in March granted the Bank of Japan permission to issue an extra 25,000,000 yen of exchangeable notes in consequence of the tightness of the money market. Military and naval manœuvres on a large scale were held at Nagoya, being witnessed by the Emperor. For writing disrespectfully of the reputed founder of the imperial dynasty, the mythical Jimmu Tenno, a Japanese editor was fined and sentenced to imprisonment for four years. Early in April the murder by burglars of the Rev. Mr. Large, a Canadian Methodist missionary, the insults to the Rev. James Summers, and the wounding and rough treatment by native lads of the Rev. W. Imbrie, in Tokio, all occurring during the time of general irritation

felt by the Japanese on the question of treaty revision, led to fears of a general reaction against Christianity and foreign civilization, for which opinion there was no sufficient ground. Many inundations were caused by the heavy rains of May. Owing to the scanty rice crop of 1889, the price of food increased and in some quarters suffering among the poor resulted, and foreign rice had to be imported. To ease the financial situation, the Government, in May, permitted the increase of convertible bank notes from 70,000,000 yen to 85,000,000 yen. A few rice riots occurred in May, about which time the cholera appeared at Nagasaki, soon spreading northward, and raging until November, causing more than 40,000 deaths. Despite the inundating rains and heavy storms of August, the promise of the crops caused the import of foreign rice to cease. On Sept. 16, the Turkish frigate "Ertogroul," which arrived on June 7, with the Sultan's decoration for the Mikado, was driven ashore on Oshima, and of her crew, 500 were drowned, and but 65 saved. In this typhoon of Sept. 16, the Japanese steamer "Musashi Maru" foundered with a loss of 50 men, and a sailing vessel having on board 25 men was lost. On Oct. 27, the celebration at Yokohama of the golden wedding of the American medical missionaries, James C. Hepburn, M. D., and his wife, who arrived at Yokohama in 1859, was an event of almost national importance. On Nov. 29 the Imperial Diet was formally opened by the Emperor, under the presidencies of Count Ito, of the House of Peers, and Mr. Nakashima, of the House of Representatives. In December the newly appointed minister to the United States, Mr. Gozo Tateno, sailed, and arrived in Washington in January, 1891.

JEWS. The Russian question, always smoldering since the excesses of 1882 aroused the civilized world to indignant protest, received fresh agitation in the summer of 1890, owing to the intelligence that the "May Laws" of Ignatieff were to be strictly carried out. These laws are briefly as follow: 1. No Jews in Russia and Russian Poland must henceforth reside in the country, but only in towns. No Jew will be permitted to own land, or even to farm land. 2. Jews have hitherto been allowed by law to reside in only 16 of the counties of Russia. But the law had not been enforced against Jewish merchants in important commercial centers outside those provinces, a ministerial circular of 1880 permitting Jews long established in these towns to remain there unmolested. The law of expulsion is now to be executed. 3. Jewish artisans, who, under the law of 1865, were permitted to reside outside the 16 counties, are to be banished from those places. 4. Jews are no longer allowed to be in any way connected with mines or mining industries, nor even to hold shares in any mine. 5. Hitherto Jews have been admitted to schools, gymnasia, and universities, subject to the limitation that their number should not exceed 5 per cent. of the total number of students. The reduction to a smaller percentage has followed, and from many of the higher educational institutes Jews have been expelled. 6. The legal profession is to be closed to Jews. Special sanction of the Minister of the Interior is required before a Jew, qualified by examination, may practice. Since the promulgation of the law, not a single sanction

has been given, and it is understood that none will be. 7. Jews are prohibited from following the professions of engineer, or army doctor, or from filling any Government post, however subordinate. The publication of these laws and their prompt execution have intensified the unhappy condition of the Russian Jews. Driven from the rural districts into the overcrowded towns, with their village homes broken up and their employments interrupted and proscribed, the alternative of starvation or emigration is before them; but as anything like an *en masse* emigration is impossible, owing to the poverty of the people and the restrictions of the Government, their wretchedness it would be difficult to exaggerate. A decade ago the excesses were begun by the peasantry against the Jews, and the Government, however tardily, took measures to repress the outbreaks. To-day the Government itself enforces measures that equal the most severe persecutions of the middle ages. The protest of public opinion throughout civilized lands can not be said to have produced any practical effect. Russia naturally resenting any interference with her domestic affairs. The English and American press were especially rigorous in their criticism. A mass meeting was held in London on Dec. 10, at which speeches were delivered against the spirit of persecution. The discussion is bringing to light many interesting facts. Count Tolstoi's protest, signed by the best-known literary men of Russia, against the persecution of the Jews, the speech of the Archbishop of Odessa contrasting the morality of Russian Jews with the immorality of their Russian oppressors, and some similar utterances on the part of priests and jurists in Russia, are rifts in the clouds betokening sunrise. The total ignorance of the peasantry has to be remedied by a thorough and comprehensive system of national education which shall teach thrift among the working classes and develop a higher state of morality among the peasantry. The problem is as much economic as religious.

Naturally the condition of Jewish emigrants from Russia has evoked much interest, and the measures taken to improve their condition are part of the history of the year. Prominent among these was the creation in New York of the Baron de Hirsch Trust. The \$5,000,000 that Russia refused to receive for Jewish education from Baron Maurice de Hirsch has been set apart for similar purposes, and \$12,000 monthly is transmitted to a committee in New York, which consists of Myer S. Isaacs, president; Jesse Seligman, treasurer; Julius Goldman, secretary; Jacob H. Schiff, Henry Rice, Oscar S. Straus, James H. Hoffman, all of New York, and William B. Hackenbush and Mayer Sulzberger, of Philadelphia; Adolphus S. Solomons, general agent. The benefits of the fund inure exclusively to such Russian and Roumanian immigrants as have been in America not longer than two years, except for educational purposes. Its work includes: Furnishing mechanics with tools, teaching them easily acquired trades, paying their entrance fees into trades unions, loaning them small sums to help them become self-supporting; establishing day and night schools for children and adults where none exist, and teaching elements of English, sanitary habits, and the Constitution of the United States, transportation to farms and manufacturing cen-

ters, and removal from crowded tenement houses in the great cities. The work is done in a systematic way, with agencies in New York and Philadelphia.

The Jews of England have been stirred by the death of Rev. Dr. N. M. Adler and the election of a successor in the person of his son, Rev. Dr. Hermann Adler. The discussion as to modifying his powers has not yet reached its close, and indicates the growing dissatisfaction with a central rabbinate and the desire for unity instead of uniformity. Lord Rothschild took the leading part in the movement to unite the three sections of English Jews, but it failed of any practical results. The large increase of the foreign Jewish element in London led to the appointment of Dr. Lerner as special rabbi for them, and the project of erecting a central synagogue received its first impetus from Lord Rothschild's proposed grant of £10,000. Under the direction of the Rev. Dr. Gaster the Judith Montefiore College at Ramsgate was reorganized. A new home for incurables was opened in Victoria Park, London, and a movement was begun for erecting a new synagogue in West Hamstead, London, and a new one was opened in the Hammer-smith district, while new synagogues were consecrated in Nottingham and Northampton. Solomon Shechter was appointed Reader of Rabbinic Literature at Cambridge. Prof. Sylvester received the degree of LL. D. from Oxford and D. C. L. from Cambridge.

The ferment in the industrial world affected Jewish artisans, who showed their sympathy toward strikers in the tailoring and boot-making trades. The final report of the House of Lords' committee bore further evidence that there is no foundation for the popular notion that the Jews have a monopoly of sweating, or that the conditions of English labor are necessarily degraded by the influx of foreign Jews.

The "Diaries of Sir Moses and Lady Montefiore" was one of the notable books of the year. The Rev. Dr. H. Adler had a correspondence with Cardinal Manning in connection with the alleged *imprimatur* by the Pope to a book giving credence to the "blood accusation," and the Cardinal's letter removed all ground for fearing that the Pope approved of the book. The twenty-fifth anniversary of Cardinal Manning's work in London was made the occasion, on Oct. 30, of an address presented to him by the Jews of England, testifying to their appreciation of his character and services. In his reply the Cardinal said:

I have found you forward in all good works. In the care of your children, of your sick, and of your poor you give us a noble example of generosity and efficiency. You are inflexible, as we are, in maintaining that education is essentially a religious work. Your schools, as ours, are firmly and fearlessly religious. I have been witness of your care of the sick in the festivals of the Metropolitan Free Hospital. Of the watchful care of your poor I have had full evidence. When, driven out by tyranny in Russia, they came over in multitudes to our shores, I was witness of your wise and efficient administration. . . . I should not be true to my own faith did I not venerate yours. There are, I believe, only three indestructible elements in the history of man—the people and faith of Israel; the Catholic Church, sprung from it; and the world, which has persecuted both. Sometimes, perhaps, we have wronged one another,

for all are not Christians who are called Christian, and all are not of Israel who are called Israelites. Many deeds dark and terrible have, no doubt, been done of which Israel is guiltless; as, also, in many misdeeds the Catholic Church is without a stain. The world is perpetually recruited from both sides by those who are unworthy of the name they bear. As the world grows in mass it grows in malice; and if our forecasts are true, I might even say—for as much as what is foretold is certain—the warfare of the world against all who believe in God will grow and spread in power for its final conflict and its final destruction. . . . Men become what their rulers make them. Penal codes make loyal men disloyal, and social vexations generate animosities which crush the weak and sting men to madness. The greater the power, the greater should be the humanity and the tolerance of those whom ages have brought low.

The anti-Semitic movement met a severe check in Germany by the unwillingness of Emperor William further to countenance Court-Praeher Stoecker's methods and the summary interdict put upon his Jew-baiting. It is true a motion was passed in the Upper House of the Prussian Parliament to separate Jewish from Christian pupils in the public schools; but the unveiling of the Mendelssohn Memorial in Dessau and the erection of the Lessing monument in Berlin, together with the resolute attitude of the young Emperor, who on more than one occasion has assured the Jews of his sympathy and protection, are proofs that a better feeling prevails. In France the slight ripple of anti-Semitism has passed away. In Austria-Hungary, the anti-Semitic party is either dead or dormant. In the Austrian Parliament, on Feb. 21, Rabbi Dr. Bloch spoke against anti-Semitic agitation. Meanwhile the stream of activity in religious and charitable work continues. A new home for the aged was erected in Vienna, a technical institute in Wilna, a home for convalescents in Warsaw, an orphan asylum in Vienna, and new synagogues in Berlin and Bucharest. Baron Bleichroeder gave 100,000 marks for the relief of patients by Dr. Koch's method.

The condition of the Jews of the United States shows a healthy progress and a resolute determination to advance along the lines of charitable and educational work. The order of Bnai B'rith held its biennial convention in Richmond. The subject of optional endowment was relegated to the district grand lodges, resolutions were passed offering co-operation with the De Hirsch Trust for Russian immigrants, and suggesting an improved ritual. The official strength of the order is as follows: District No. 1, 8,037; No. 2, 2,874; No. 3, 1,980; No. 4, 2,293; No. 5, 1,835; No. 6, 2,562; No. 7, 2,265; No. 8, 2,456; No. 9, about 900. At the spring conference of the Jewish Ministers' Association addresses were given by the Rev. Drs. Kohnt, Silverman, and Jastrow. A prize of \$250 was offered by the Rev. Dr. Gottheil for a theological and scientific work on Judaism, and \$100 for the best essay on rabbinical training. No fall conference was held. Efforts are being made by the New York Jewish ministers to provide a prison chaplain for the penitentiaries and mission work. At the first meeting of the Central Conference of American Rabbis, at Cleveland, July 13-15, of which the Rev. Dr. Isaac M. Wise is president, the speakers and subjects were as follow: "Marriage Agenda," Rev. Dr. M. Mielziner; "Judaism in its Re-

lation to the Republic," Rev. Dr. S. H. Sonneschein; "Confirmation in the Synagogue," Rev. Dr. D. Philipson; "The Rabbi and the Congregation," Rev. Dr. A. Hahn.

In the domain of education and charity it to be chronicled the gift of Hon. Jacob H. Schiff of \$10,000 for a Semitic museum at Harvard, and one of \$27,000 by some Chicago Israelites for the new Baptist University of that city. A Hebrew Manual Training School in Chicago was opened with nearly 1,000 pupils. New Jewish hospitals were organized in Chicago and New York. Dr. Cyrus Adler was sent to Europe and the East as agent for the World's Fair Oriental Exhibit. New synagogues were erected in Providence, R. I., Brunswick, Ga., Newburg, N. Y., Buffalo, N. Y., New York City, Helena, Montana, Omaha, Neb., and Montreal, Canada. An attempt to unite the various Young Men's Hebrew Associations was made with fair prospect of success. The objects proposed are to encourage the formation of new societies, to urge Jewish youth to enter trades to assist in maintaining manual schools, to organize an employment bureau, and form a lecture bureau. The large extent of territory and the comparatively few associations make a union for the present somewhat chimerical. The spread of sisterhoods attached to a number of New York synagogues for charitable and educational purposes and the organization of an order, "Daughters in Israel," in Baltimore, on the plan of the "King's Daughters," indicate much activity among Jewesses. The United Hebrew Charities of New York received \$104,523.92 and expended \$105,000.77.

The Grand Jury of New York, at the suggestion of the Jewish Ministers' Association, pronounced the granting of divorces illegal unless the State courts are first consulted. This measure is to check the practice, not unusual among newly arrived immigrants from Russia and Galicia, of securing divorces for trivial causes from unauthorized persons who claim to be rabbis.

A noteworthy conference was held at Chicago, on Nov. 24 and 25, by Jews and Christians. These addresses were delivered: Rev E. P. Goodwin, D. D., on "The Attitude of Nations and Christian People toward the Jews"; Rev. Dr. B. Felsenthal, "Why Israelites do not accept Jesus as Messiah"; Rev. Dr. E. G. Hirsch, "The Religious Condition of the Jews To-day and their Attitude toward Christianity"; Rev. J. H. Barrows, "Israel as an Evidence of the Truth of the Christian Religion"; Rev. Joseph Stolz, "Post-Biblical History of Israel"; Rev. J. M. Caldwell, D. D., "Palestine To-day and the Restoration of Israel"; Prof. David C. Marquis, D. D., "Israel's Messiah"; Mr. Zulotkoff, "Anti-Semitism"; Prof. H. M. Scott, D. D., "Mutual Relation and Welfare of Jews and Christians." At its close the following resolutions were adopted:

Whereas, In the blind bigotry and degradation of the dark ages, when Jews were looked upon as the special foes of Christianity no one seemed to remember that its founders were Israelites, that its divine author in his human capacity was a Jew, a descendant of David and of the tribe of Judah.

Whereas, In these days of enlightenment and in this great country of America, which promises equal rights to all men, we believe that a more Christ-like spirit should prevail, a spirit of brotherly love and good will to all mankind; and

Whereas, We believe that the exclusion of Jewish families from hotels and social privileges, the exclusion of Jewish children from schools and educational advantages, for no other reason than mere prejudice, is altogether un-Christian and un-American.

Resolved, Therefore, that this conference does hereby express its disapprobation of all discrimination against the Jews as such. And further, we extend our sincere sympathy and commiseration to the oppressed Jews of Russia and the Balkans, the victims of injustice and outrage. And, as we believe, voicing the sentiment of this great country,

Resolved, That we plead with the rulers and eminent statesmen of the vast Russian Empire, we plead with all its fair-minded and noble citizens, in the name of God and in the name of the common brotherhood of men, to stay the hand of cruelty from this time-honored people, which have given them as well as us our Bible, our religion, and our knowledge of God.

Resolved, That we call upon the rulers and statesmen of our own country to use their influence and good offices with the authorities of all lands to accomplish this humane and righteous end.

The conference was warmly commented on by the general religious press and produced a pleasant impression.

A similar interchange of sentiment took place in New York on Dec. 6, when, at the invitation of Dr. Felix Adler, of the Society of Ethical Culture, President Andrews, of Brown University, Prof. Brinton, of the University of Pennsylvania, the Rev. Dr. Lyman Abbott, the Rev. Dr. Heber Newton, and Dr. A. S. Isaacs, of the "Jewish Messenger" addressed a public meeting on the need of improvements in theological training, with a view to the establishment of a summer school of ethics, in which all should participate without distinction of creed.

The new dispensary building of the Mount Sinai Hospital was opened in July. A conference of Christian ministers was held in Baltimore in December to protest against Russian persecutions, Cardinal Gibbons being chairman of the committee. The American Jewish Publication Society issued "Think and Thank."

The necrology of the year embraces abroad Chief-Rabbi Adler, of England; Prof. Dr. Schiller-Szinessy, of Cambridge; Rabbi Dr. Ludwig Philippson, of Bonn; Rabbi Dr. M. Lehmann, of Mayence; Meyer Marcus Roest, scholar and journalist, of Amsterdam; Jacob Werber, journalist, of Brody; Grand-Rabbi Trenel, head of the Paris Jewish Seminary; Cantor Sulzer, of Vienna; the philanthropist Count Abraham Camondo, of Constantinople; Rabbi Dr. Landsberger of Hesse-Darmstadt; Court-Councillor Jonas Guirland, Chief Rabbi of Odessa; Rabbi Dr. M. Joel, of Breslau, a scholar of much breadth and ability, and a writer on the mediæval philosophy of the Jews; Prof. Dr. Franz Delitzsch, who, though not a Jew, was ever so earnest in his chautauquism; Sir Benj. S. Phillips, Rev. D. Piza, Drs. Jos. Kisch and David Asher and Mr. Philip Abraham, of London; the Countess Rosebery, who as Hannah de Rothschild was given in marriage by the Earl of Benconfield to Lord Rosebery, while it was Mr. Gladstone who threw earth on her coffin at her burial; Baroness J. L. Menasse, of Paris; Rabbi Mercado, of Cairo; Rabbi Dr. Moses Duschak, of Cracow; Emile Levy, painter, of Paris; Max Brüll Ritter von Domony, of Pesth; Dr. H. Loeb, of Belgium; Seligman Heller, of Vienna; S. J. Finn, of Wilna; Dr. Heinrich Jacobson, of

Berlin; Rabbi Dr. Aron, of Strasburg; Rev. J. L. Cardozo, of Amsterdam; C. D. Asser, of the Hague; Giuseppe Revere, of Rome. At home, there have passed away Hon. Benjamin F. Peixotto, ex-United States consul to Bucharest and Lyons, journalist, lawyer, and philanthropist, whose services in behalf of the persecuted Jews of Roumania were recognized and contributed to their

political freedom; Judges Solomon Heydenfeldt, of San Francisco, Philip J. Joachimsen and Mr. Henry S. Henry, of New York; M. R. Cohen, M. D., of Kansas City; George D. Rosengarten and Isidore Binswanger, of Philadelphia; Rev. Adolph Rubin, of New York; Rev. Dr. Aaron Bettelheim, of Baltimore; Louis Sachs, of San Francisco.

K

KANSAS, a Western State, admitted to the Union Jan. 29, 1861; area, 82,080 square miles. The population, according to each decennial census, was, 107,206 in 1860; 364,399 in 1870; 996,096 in 1880; and 1,427,096 in 1890. Capital, Topeka.

Government.—The following were the State officers during the year: Governor, Lyman U. Humphrey, Republican; Lieutenant-Governor, Andrew J. Felt; Secretary of State, William Higgins; Auditor, Timothy McCarthy; Treasurer, James W. Hamilton, who resigned in February, and was succeeded by William Sims; Attorney-General, L. B. Kellogg; Superintendent of Public Instruction, George W. Winans; Superintendent of Insurance, Daniel W. Wilder; Railroad Commissioners, James Humphrey, L. L. Turner, and Almerin Gillett; Chief Justice of the Supreme Court, Albert H. Horton; Associate Justices, William A. Johnston and Daniel M. Valentine; Supreme Court Commissioners, B. F. Simpson, J. C. Strang, and George S. Green.

Population.—The following table exhibits the population of the State by counties as ascertained by the national census of this year compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Allen.....	11,368	18,509	2,206
Anderson.....	9,057	14,208	5,146
Arapahoe.....	3		* 3
Atchison.....	26,668	26,538	199
Barber.....	2,661	7,913	5,312
Barton.....	10,818	13,152	2,334
Bourbon.....	19,591	28,555	8,964
Brown.....	12,817	20,319	7,502
Buffalo.....	191		* 191
Butler.....	18,536	24,055	5,469
Chase.....	6,081	8,293	2,152
Chautauqua.....	11,072	12,297	1,225
Cherokee.....	21,965	27,170	5,205
Cheyenne.....	37	4,101	4,364
Clark.....	163	2,357	2,194
Cloud.....	12,350	16,146	3,826
Clay.....	13,343	19,295	5,952
Coffey.....	11,438	15,536	4,118
Comanche.....	372	2,549	2,177
Cowley.....	21,588	34,478	12,940
Crawford.....	16,851	30,286	13,435
Decatur.....	4,180	8,414	4,234
Dickinson.....	15,251	22,273	7,022
Doniphan.....	14,257	18,335	* 722
Douglas.....	21,709	23,961	2,261
Edwards.....	2,449	3,600	1,191
Ellis.....	10,623	12,216	1,593
Ellis.....	6,179	7,942	1,763
Ellsworth.....	8,494	9,272	778
Finney.....		8,350	8,350
Foot.....	411		* 411
Ford.....	3,122	5,308	2,186
Franklin.....	16,797	20,279	3,482
Garfield.....		881	881
Gove (formerly Davis).....	6,964	10,293	3,429
Gove.....	1,196	2,364	1,198
Graham.....	4,258	5,029	771
Grant.....	9	1,308	1,299
Gray.....		2,415	2,415
Greeley.....	8	1,261	1,261
Greenwood.....	10,548	16,809	5,761

COUNTIES.	1880.	1890.	Increase.
Hamilton.....	168	2,097	1,859
Harper.....	4,133	13,266	9,133
Harvey.....	11,451	17,601	6,150
Haskell.....		1,077	1,077
Hodgman.....	1,704	2,395	691
Jackson.....	10,718	14,626	3,908
Jefferson.....	15,263	16,620	1,067
Jewell.....	17,475	19,849	1,874
Johnson.....	16,858	17,885	582
Kansas.....	9		* 9
Kearney.....	159	1,571	1,412
Kingman.....	8,713	11,923	3,210
Kiowa.....		2,378	2,378
Lafayette.....	22,735	27,586	4,851
Lane.....	601	2,060	1,459
Leavenworth.....	22,325	38,485	16,160
Lincoln.....	8,582	9,709	1,127
Linn.....	15,295	17,315	1,917
Logan.....		8,284	8,284
Lyons.....	17,236	23,196	5,960
McPherson.....	17,143	21,614	4,471
Marion.....	12,438	20,589	8,056
Marshall.....	16,186	23,912	7,726
Meade.....	296	2,542	2,246
Miami.....	17,502	19,614	1,812
Mitchell.....	14,911	15,087	196
Montgomery.....	18,213	23,114	4,901
Morris.....	9,265	11,281	2,116
Morton.....		724	724
Nemaha.....	12,162	19,349	7,187
Neosho.....	15,121	18,761	3,640
Neos.....	8,722	4,944	1,222
Norton.....	6,998	10,617	3,619
Osage.....	19,642	25,062	5,420
Osborne.....	12,517	12,093	* 484
Ottawa.....	10,807	12,581	2,274
Pawnee.....	5,396	5,204	* 192
Phillips.....	12,014	13,661	1,647
Pottawatomie.....	16,550	17,722	1,172
Pratt.....	1,490	8,118	6,328
Rawlins.....	1,023	6,726	5,703
Reno.....	12,826	27,079	14,253
Republic.....	14,913	19,002	4,089
Rice.....	9,292	14,451	5,159
Riley.....	10,480	18,183	7,703
Rooks.....	8,112	8,018	* 94
Rush.....	5,490	5,264	* 226
Russell.....	7,551	7,233	* 318
Scott.....	15,808	17,442	1,634
Seelye.....	43	1,202	1,219
Sedgewick.....	18,753	45,626	24,873
Sequoyah.....		568	* 568
Seward.....	5	1,568	1,498
Shawnee.....	29,098	49,172	20,079
Sheridan.....	1,567	8,733	2,166
Sherman.....	13	5,261	5,248
Smith.....	13,888	15,618	1,730
Stafford.....	4,755	8,229	3,475
Stanton.....	5	1,081	1,076
Stevens.....	12	1,418	1,406
Sumner.....	20,512	30,271	9,759
Thomas.....	161	5,588	5,577
Trego.....	2,535	2,585	
Wabaunsee.....	8,756	11,720	2,964
Wallace.....	68	2,468	1,782
Washington.....	14,910	22,284	7,394
Wichita.....	11	1,827	1,816
Wilson.....	13,775	15,256	1,511
Woodson.....	6,535	9,921	2,446
Wyandotte.....	19,143	34,497	15,264
Total.....	996,096	1,427,096	431,000

* Decrease.

Finances.—The reports of the Auditor and Treasurer for the fiscal years ending June 30, 1889, and June 30, 1890, show receipts and disbursements of all funds as follow:

For 1889: Receipts, inclusive of amount in treasury June 30, 1888, \$3,190,190.79; disbursements, \$2,846,445.10; balance in treasury June 30, 1889, \$343,745.69.

For 1890: Receipts, inclusive of amount in treasury June 30, 1889, \$3,309,237.56; disbursements, \$2,594,099.43; balance in treasury June 30, 1890, \$715,138.13.

The receipts for 1889 included \$1,329,000.49 from taxes, \$29,000 from sale of Kansas State bonds, \$104,067.49 from the Penitentiary, \$265,445.26 from sales of school lands, \$159,749.92 from sales of Government land, being 5 per cent. of the total sales, \$233,318.80 from interest on the permanent school fund bonds, \$318,466.80 from interest on sales of school lands, and \$41,704.90 from the insurance department. The expenditures for 1889 included \$1,311,178.24 from the general revenue fund, \$30,000 for sinking-fund bonds paid, \$54,915 for interest on the State debt, \$13,961.18 for interest on Quantrell raid claims, \$207,231.43 for the State House construction, \$544,353.81 for annual support of schools, and \$580,086.25 added to the permanent school fund.

For 1890 the receipts included \$1,404,416.60 from taxes, \$103,258.10 from the Penitentiary, \$162,863.40 from sales of school lands, \$253,550.17 from sales of Government lands, 5 per cent., \$274,943.42 from interest on permanent school fund bonds, \$224,857.12 from interest on sales of school lands, and \$35,767 from the insurance department. The expenditures for 1890 included \$1,018,630.92 from the general revenue fund, \$34,172.95 for Quantrell raid claims paid, \$58,000 for interest on State debt, \$187,488.01 for State House construction, \$523,302.78 for annual support of schools, and \$633,445 added to the permanent school fund.

The aggregate bonded debt of the State amounts to \$801,000, of which \$12,509 becomes due in 1894, \$36,500 in 1895, \$70,000 in 1896, \$200,000 in 1897, \$230,000 in 1898, \$159,000 in 1899, \$18,000 in 1908, and \$5,000 in 1909.

The Auditor's report shows that \$536,000 of this amount is owned by the permanent school fund, and \$9,000 by the State University fund, leaving \$256,000 as the amount of bonds owned by individuals.

Under an act of the Legislature of 1887, whereby the State assumed the payment of certain guerilla raid claims, certificates of indebtedness, the principal of which aggregates \$352,963.91, have been issued by the Auditor of the State. This sum, with the bonds before mentioned, forms the total State debt.

County Debts.—The total debt of Kansas counties in 1890 was \$14,817,780, of which all except \$588,105 is a bonded debt. There has been an increase of \$6,861,859 in the total debt since 1880. Only 10 of the 78 counties in the State are without debt.

Valuations.—The total valuation of taxable property in the State for 1890, as returned by the county clerks, was \$347,717,218, which sum was increased by the State Board of Equalization to \$348,459,943. These figures show a decrease of \$12,355,130 from the valuation of 1889. The valuation of town lots was \$72,814,873, a de-

crease of \$8,515,798 from 1889; of other real estate (including 44,059,605 acres of land), \$168,285,199, a decrease of \$5,516,811; of personal property, \$48,750,913, a decrease of \$4,436,458; of railroad property, \$57,866,232, an increase of \$371,383. The rate of taxation for State purposes was 4-25 mills, 3-4 mills being for the general fund 4 mill for the State House fund, 2 mill for the interest fund, and 25 mill for the University fund.

Education.—The following public-school statistics, covering the school years ending June 30, 1889 and 1890, are reported by the State Superintendent:

SUBJECT.	1889.	1890.
Population between five and twenty-one years:		
Male.....	260,056	260,651
Female.....	225,148	248,963
Total.....	624,206	609,614
Enrolled in public schools.....	405,454	391,420
Average daily attendance.....	241,697	287,900
Male teachers.....	4,245	4,173
Female teachers.....	6,249	6,208
Average monthly salary:		
Male teachers.....	\$41 85	\$42 00
Female teachers.....	\$34 70	\$34 47
Average school year in weeks.....	25 6	27 0
Value of school property.....	\$9,194,428	\$10,617,149
Number of school houses.....	8,819	8,811
Bonded debt of school districts.....	\$5,288,384	\$5,448,485

The receipts and expenditures of each year for school purposes were as follow:

Receipts, 1889.—Balance in district treasuries, July 1, 1888, \$534,007.15; received from county treasurers, from district taxes, \$3,625,406.36; from the State and county school funds \$526,592.91; from sale of school bonds, \$969,023.19; from all other sources, \$260,134.15; making a total of \$5,915,163.76.

Expenditures, 1889.—For teachers' wages and supervision, \$2,986,903.96; for rents, repairs, fuel, and incidentals, \$725,955.66; for district libraries and school apparatus, \$68,755.86; for sites, buildings, and furniture, \$1,014,730.81; and for all other purposes, \$341,114.58; making a total of \$5,137,460.87, and leaving in the hands of district treasurers, June 30, 1889, a balance of \$777,702.89.

Receipts, 1890.—Balance in district treasuries, July 1, 1889, \$694,417.67; received from county treasurers, from district taxes, \$3,572,340.20; from the State and county school funds, \$502,502.95; from sale of school bonds, \$757,932.55; from all other sources, \$169,466.59; making a total of \$5,696,659.96.

Expenditures, 1890.—For teachers' wages and supervision, \$3,021,066.38; for rents, repairs, fuel, and incidentals, \$680,291.16; for district libraries and school apparatus, \$77,076.49; for sites, buildings, and furniture, \$874,221.1; and for all other purposes, \$320,311.83; making a total of \$4,972,966.86, and leaving in the hands of district treasurers, June 30, 1890, a balance of \$723,693.10.

The following were the permanent funds of the State available for educational purposes on Dec. 31, 1890: Permanent school fund, \$5,801,664.68; University fund, \$126,463.91; Normal School fund, \$126,118.55.

At the State University for the school year 1889-90 there were 508 students, of whom 17

were in the graduate department, 199 in the college, 56 in the law school, 138 in the preparatory department, and 130 in the other departments of art, music, and pharmacy. During the same period 515 students attended the State Agricultural College. At the State Normal School there were 1,120 students, 908 in the normal department and 212 in the model school.

Agriculture.—The following summary, from a compilation by the Secretary of the State Board of Agriculture, shows the product and value of the field crops of Kansas for 1889:

	Acres.	Product.	Value.
Winter wheat, bushels.	1,550,947	85,080,048	\$19,542,573 77
Eye, bushels.	294,626	5,850,060	1,536,998 27
Spring wheat, bushels.	88,388	1,189,903	588,127 44
Corn, bushels.	6,820,698	278,888,821	51,649,876 18
Barley, bushels.	6,378	175,405	47,829 77
Oats, bushels.	1,892,098	47,922,889	7,654,812 88
Buckwheat, bushels.	4,388	60,990	41,994 00
Irish potatoes, bushels.	105,447	11,432,482	8,892,229 90
Sweet potatoes, bushels.	6,615	779,783	412,256 70
Sorghum, bushels.	394,609	.....	4,217,757 60
Castor beans, bushels.	21,158	187,820	240,885 55
Cotton, pounds.	1,398	511,909	40,952 00
Flax, pounds.	118,329	1,115,819	1,115,849 00
Hemp, barrels.	248	173,600	8,680 00
Tobacco, pounds.	609	419,400	41,940 00
Broom cord, pounds.	39,588	23,749,900	681,243 00
Millet and Hungarian, tons.	431,714	863,428	8,458,712 00
Tame grasses, pounds.	.....	776,328	1,582,868 00
Prairie under fence, tons	4,838,907	2,456,984	7,570,952 00
Total	16,821,572	.....	\$104,572,498 00

The value of the live stock for 1889 is \$116,126,466, the figures being as follow:

	Number.	Value.
Horses.....	719,894	\$37,551,520 00
Mules and asses.	90,857	8,132,190 00
Milk cows.....	723,552	18,029,936 09
Other cattle.....	1,788,436	26,076,540 00
Sheep.....	298,593	734,632 50
Swine.....	1,681,955	16,607,707 50
Total.....	.....	\$116,126,466 00

Charities.—During the two years ending June 30, 1890, the average number of persons cared for annually in the eight charitable institutions of the State was 1,939, at a total cost of \$672,085.61, the *per capita* cost being \$173.30. The average number of inmates cared for during the preceding two years was 1,605, at a cost *per capita* of \$198.18.

The average number at the Topeka Insane Asylum during the two years ending June 30, 1890, was 723; at the Osawatimie Insane Asylum, 504; at the Asylum for the Deaf and Dumb at Olathe, 213; at the Reform School at Topeka, 189; at the School for the Blind at Wyandotte, 75; at the Soldiers' Orphans' Home at Atchison, 111. There were 103 inmates at the Institution for the Idiotic and Imbecile on June 30, 1890, and 35 at the Industrial School for Girls. The latter institution was established at Beloit by the last Legislature, and is located on a tract of 70 acres near the city. A building to accommodate 100 children has been erected by the State at a cost of \$16,989.

The State Soldiers' Home is on the Fort Dodge military reservation. It is projected on the cottage plan and admits not the old soldier alone, but includes his wife and such other members of

his family as may be dependent on him for support. The inmates on Nov. 1 numbered 123.

Prisons.—The number of prisoners in the State Penitentiary on June 30, 1888, was 887. The number received for the ensuing two years was 675; number discharged 702; number in custody June 30, 1890, 860.

During the first year of the biennial period, there was paid into the State treasury from contract labor, boarding United States prisoners, sales of coal, from other sources, the sum of \$103,867.49. During the second year of the period the amount received from the same sources was \$105,258.10.

The expenses of the institution for the first year exceeded the cash receipts as above given by \$60,976.42, and the expenses of the last year exceeded the cash receipts by \$48,329.36.

This showing is much improved if we take into account the cash and labor expended in permanent improvements and the coal furnished State institutions, for which no cash is received. These items for the first year amounted to \$44,284.93, and for the last year to \$51,681.24. These amounts would reduce the excess of expenditures over cash receipts for 1889 to \$16,691.49, and entirely wipe out the deficit for 1890, leaving a surplus in the sum of \$3,351.88.

Railroads.—As a result of the large corn crop of 1889, the price of that grain fell in the autumn so low that many of the farmers refused to sell, and at the beginning of this year they still held large quantities, which, at the prevailing transportation rates, it was unprofitable to market. Believing that a reduction in these rates would inure to the mutual benefit of the farmers and the railroads, Gov. Humphrey addressed communications to the officials of the leading railroads in the State, requesting that they make a large reduction in their rates. Subsequent negotiations resulted in a conference on Feb. 8, at Topeka, between the railroad officials and the Governor, other State officers, and representatives of the farmers, which resulted in an agreement by the railroads to reduce on and after Feb. 20 the tariff rates on corn, from Kansas points to Chicago, 10 per cent. from existing rates, subject to a minimum of 20 cents and a maximum of 25 cents a hundred-weight. This concession afforded the farmers temporary relief, but there was among them a strong feeling that the freight charges on all agricultural products were unreasonably high. The leaders of the Farmers' Alliance took the initiative, and on April 11 filed with the Railroad Commissioners a petition, signed by more than 20,000 Alliance men and farmers, asking the commissioners to order a reduction of rates on all agricultural products from Kansas points to Missouri river. A hearing was held on June 17, and the decision of the commissioners was rendered on July 1. They held that the request of the petitioners should not be granted, on the ground that such a reduction would not accomplish the result desired, but, believing that a reduction was needed in local rates generally between Kansas points, they promised to make such a reduction at an early date. Accordingly, on Aug. 8, they published a schedule of reduced rates, which the railroads were directed to observe on and after Sept. 1. In this schedule there was an average

reduction on wheat, flour, corn, oats, and other grains of 32 per cent. from the former local-distance tariff, and a reduction of 10 per cent. on other merchandise, including cattle, coal, lumber, and salt.

Resubmission and the Original Package.

—The year 1890 was a stormy one for the cause of prohibition in Kansas. Trouble was first encountered from a small portion of the Republican party hostile to prohibition, whose members had been active during 1889 in organizing Resubmission Republican clubs in the cities and larger towns. Their success had been such that near the close of that year a call was issued for a convention of delegates from these Resubmission clubs, to be held at Wichita on Jan. 15, for the purpose of forming a State organization. At this convention a State Resubmission Republican League was formed, and resolutions were adopted, declaring the prohibitory law a failure and demanding that the Governor should call a special session of the Legislature for the purpose of resubmitting the prohibitory amendment to the people. This action of the convention was laid before Gov. Humphrey, who appointed May 23 as a day on which he would hear any reasons for an extra session. On that day the resubmission Republicans gathered in convention at Topeka (fully nine tenths of them being from Wichita, the stronghold of this movement) and invited the Governor to appear before them. This he refused to do, deeming that they, as petitioners, should come to him. But he expressed his willingness to hear at his office anything that the convention or its committee might decide to lay before him. This action so exasperated the convention that it decided to ignore the Governor and to submit to the people the long memorial which it had adopted. After listening to a series of speeches abusive of the Governor, the convention adjourned. Later in the year the league developed into an independent political organization. It held a State convention at Wichita on Sept. 9, formed an alliance with the Democratic party, and joined with it in supporting a fusion ticket for State officers.

Late in April, while the resubmission movement was developing, the decision of the United States Supreme Court was announced in the case of *Leisy vs. Hardin*, known as the Iowa "original-package" case. It required but a short time for the brewers and liquor dealers of Kansas City and other Missouri cities to understand and take advantage of the principles therein established. Their agents were sent into all the larger communities in the State to open "original-package" shops, and in a few weeks these were in full operation. The friends of prohibition were thoroughly indignant, and in some instances they went so far as to drive the dealers out of town and to destroy or send the packages of liquor back to Missouri. The State and county prosecuting officers everywhere were urged to use every possible legal resource against the intruders. Numerous arrests were made and prosecutions begun, but in all cases the United States courts were obliged to release the dealers, when they were brought before them on *habeas corpus*. Popular sentiment upheld the prosecuting officers in arresting the dealers again and again, in order to harass them with litigation and cause

them to abandon the business, or at least to prevent them from selling until the passage of the Wilson bill by Congress, which would nullify the original-package decision and restore the prohibitory law to its full effect. The dealers retaliated by petitioning the United States Courts to enjoin the prosecuting officers from interfering with their business and from beginning further prosecutions. These petitions were uniformly granted (the first case being decided late in June), and injunctions were issued against these officers. Some of the Topeka dealers also brought suits against the local prosecuting officers, the sheriff, the police officers, and the editor of one of the daily papers, all as co-defendants, alleging that a conspiracy existed between them to destroy the plaintiffs' business. Meanwhile, the people, seeing the rapid increase of the "original-package" shops in spite of all opposition, grew impatient at the delay of Congress in passing remedial legislation. A State convention was called to register the protest of the people against the so-called "Missouri whisky invasion," and to urge upon Congress the necessity of immediate action. The convention met at Topeka on June 23, and more than 3,000 delegates, representing every county in the State, were present. An address was issued and a series of resolutions adopted, both of which the Kansas delegation in Congress was requested to present to that body.

On Aug. 8, the Wilson bill, having passed both Houses of Congress, received the President's signature. The closing of nearly all of the obnoxious shops immediately followed, and it was thought that the trouble had ended. But two questions were raised by the liquor sellers—first, whether the Wilson act itself was constitutional; second, whether, after the decision of *Leisy vs. Hardin*, a re-enactment of the Kansas prohibitory law would not be necessary to give it effect upon imported liquors. These points were brought before Judges Foster and Phillips in the United States Circuit Court for the District of Kansas, in the case *re Rahrer*, which was decided on Oct. 17. The court, without expressing any opinion on the first point, decided that the effect of *Leisy vs. Hardin* was to nullify the Kansas law so far as it related to imported liquors, and that the Wilson law could not give it any force that it did not previously have. It followed that, as it was ineffectual to suppress the "original-package" business before the Wilson law was passed, it was ineffectual thereafter unless re-enacted. From this decision the State appealed to the United States Supreme Court. On the very day when this decision was announced, "original-package" shops were opened in Topeka and other cities, and the business was again in full blast. They had been in operation scarcely a fortnight, when, on Oct. 31, Judge Caldwell, of the United States Circuit Court for the District of Iowa, in a similar case which came up under the Iowa prohibitory law, rendered a decision directly opposed to that of Judges Foster and Phillips, holding that the effect of the Wilson law was to re-establish in its full force the Iowa prohibitory law. In view of these conflicting decisions, many of the liquor dealers decided to close their shops and await the decision of the appeal to the United States

Supreme Court. The case was pending in the latter court at the close of the year.

Political.—The political contest of this year was remarkable for the breaking down of old party lines. In addition to the three old organizations, two new ones appealed to the suffrages of the people—the Resubmission Republican party, whose origin is considered above, and the People's party, which was an outgrowth of the Farmers' Alliance movement. The history of the Farmers' Alliance in the State dates from 1888. During 1889 it enjoyed a surprising growth, absorbing the State Grange in December of that year, and began the year 1890 with a membership of over 100,000. Up to that time it had taken no active part in politics, but its growing power proved too great a temptation to its leaders. While they refrained from transforming the Alliance directly into a political organization, they united in creating a so-called People's party, which adopted the Alliance principles and which every Alliance man was urged to support.

The first ticket for State officers placed in the field was nominated at McPherson on July 4, by the third-party Prohibitionists. They selected the following candidates: For Governor, A. M. Richardson; for Lieutenant-Governor, E. Leonardson; for Secretary of State, Charles Fairfield; for Treasurer, J. A. Myers; for Auditor, H. F. Potter; for Attorney-General, D. W. Kent; for Superintendent of Public Instruction, Mrs. S. S. Weatherby. On Oct. 13 D. W. Kent withdrew from the ticket and advised the party to support the Republican candidate for Attorney-General. The State convention of the People's party was held at Topeka on Aug. 13. The following ticket was nominated: For Governor, John F. Willits; for Lieutenant-Governor, A. C. Shinn; for Secretary of State, R. S. Osborn; for Treasurer, W. H. Biddle; for Auditor, E. F. Foster; for Attorney-General, John N. Ives; for Superintendent of Public Instruction, Miss Fannie McCormick; for Justice of the Supreme Court, W. F. Rightmire. The platform included the following:

The use of labor-saving machinery should shorten the hours of toil and inure to the benefit of the employed equal with the employer.

The earth is the common heritage of the people; every person born into the world is entitled equally with all others to a place to live, and earn a living, and any system of government that does not maintain and protect this inalienable right is wrong, and should be changed or abolished.

We demand the abolition of national banks.

We demand the free and unlimited coinage of silver.

We demand that Congress shall pass such laws as shall effectually prevent the dealing in futures in all agricultural and mechanical productions.

We demand the passage of laws prohibiting alien ownership of land.

We demand that Congress provide for the issue of sufficient amount of fractional paper currency to facilitate exchange through the medium of the United States mail.

We demand that the means of communication and transportation shall be owned by and operated in the interest of the people, as is the United States postal system.

Resolutions were also passed favoring a Board of Labor Arbitrators, denouncing the importation of Pinkerton detectives by railroads to coerce their employes, denouncing the con-

spiracy law of the State affecting railway employes, and demanding a law that freight cars should be equipped with automatic air brakes and safety coupling appliances.

The Republicans held their convention at Topeka on Sept. 3. They renominated Gov. Humphrey, Lieut.-Gov. Felt, Secretary of State Higgins, Attorney-General Kellogg, Superintendent of Public Instruction Winans, and Chief-Justice Horton. For Auditor the nominee was Charles M. Hovey, and for Treasurer S. G. Stover. The platform included the following:

We are in favor of a uniformity of text books in all the schools of the State, and demand such legislation as will procure, by contract or otherwise, the best standard books at the least possible price.

We are in favor of electing the railroad commissioners by a vote of the people, and we demand of the next Legislature to confer upon the Board of Railroad Commissioners ample power to regulate the passenger and freight rates.

We favor such a change by legislation as will produce a more effective system of the assessment of property for the purpose of taxation, and a reduction of the excessive fees and salaries of public officers, including the public printing and county officers.

We demand that the Legislature create a State Board of Arbitration for the settlement of questions arising between employes and corporations.

We are in favor of so amending our existing laws on the subject of the payment of employes of individuals, companies, or corporations engaged in manufacturing as to provide for weekly payment of wages in lawful money.

We are in favor of legislation prohibiting the employment of children under the age of fourteen years in mines, factories, workshops, or mercantile establishments.

The Democratic State Convention was held at Wichita on Sept. 9. Its nominees were: For Governor, Charles Robinson; for Lieutenant-Governor, D. A. Banta; for Secretary of State, S. G. Isett; for Treasurer, Thomas Kirby; for Auditor, James Dillon; for Superintendent of Public Instruction, M. H. Wood; for Justice of the Supreme Court, M. B. Nicholson. The Farmers' Alliance candidate for Attorney-General, John N. Ives, was endorsed for that office. The platform included the following:

We are opposed to all sumptuary legislation, and demand the earliest resubmission of the so-called prohibitory amendment to a vote of the electors, and an immediate repeal of the laws passed in the interests of prohibition, which confer dangerous power when the courts substantially deprive the citizens of trial by jury, and of local self-government, and we declare unequivocally for high license and local option.

We are emphatically in favor of the exercise by the Legislature of its undoubted powers to regulate the operation of railroads in this State to the end that passenger and freight rates shall be equal, reasonable, and fair. There is no legal right in railroads to charge a small shipper a higher rate than a larger one, nor is it just for common carriers to charge a higher sum for the transportation of agricultural products than of any merchandise.

At the same time and place the Resubmission Republicans met in State convention and adopted the ticket nominated by the Democrats, which was in reality a fusion ticket, the candidate for Lieutenant-Governor being the chairman of the Resubmission Convention. The following is a portion of the Resubmission platform:

We renew our pledge of unwavering loyalty to the principles of the national Republican party, which

has ever been for championing the rights of all the people, and its management of affairs has been inspired by statesmanship so great as to command the admiration of all.

We arraign the party managers in this State as disloyal to the principles and unfaithful to the interests of the Republican party, and charge that they have put the party in Kansas out of harmony with the national Republican party, and thereby absolve them from all obligations to longer acknowledging their leadership.

These things impel us as the only method which promises success to sink party preferences in State politics for the time, and unite with such of our fellow-citizens of the State as share our convictions.

Before the close of the canvass the Republicans became thoroughly alarmed at the defections from their ranks, and, in their endeavors to hold the party together went so far as to assail the character of the gubernatorial candidate of the People's party. The charges against him were based upon the official records of the county court, and it is probable that the publication of these records saved the Republicans from defeat. They elected their entire ticket, with one exception, but their plurality of nearly 80,000 in 1888 was reduced to barely one tenth of those figures. The official vote for Governor was as follows: Humphrey, 115,025; Willis, 106,973; Robinson, 71,357; Richardson, 1,230. The other Republican candidates, except the Attorney-General, were elected by pluralities varying from 4,915 in case of Lieutenant-Governor to 8,443 in case of Auditor. For Attorney-General the vote was 122,752 for Kellogg to 170,665 for Ives, the latter being the candidate of both the People's party and the Democratic-Resubmission party. Members of the Lower House of the Legislature were elected at the same time as follow: Alliance, 90; Republicans, 27; Democrats, 8. Of the 90 Alliance members, 62 had been Republicans.

Two amendments to the State Constitution were voted upon at the same time. The amendment increasing the members of the Supreme Court from three to seven was defeated by a vote of 66,601 in its favor to 121,636 against it. The amendment changing the time for the regular meeting of the Legislature to the first Tuesday of December and lengthening the session to ninety days was also defeated, the vote standing 53,463 for and 140,041 against.

Of the 7 Congressmen chosen at this time, the Republicans elected only 2, the People's party 1, and 4 were elected on a fusion ticket, supported by the Democrats, the People's party, and the Resubmissionists.

KENTUCKY, a Southern State, admitted to the Union June 1, 1792; area, 40,400 square miles. The population, according to each decennial census since admission, was 220,955 in 1800; 400,511 in 1810; 564,135 in 1820; 687,917 in 1830; 779,828 in 1840; 982,405 in 1850; 1,155,684 in 1860; 1,321,011 in 1870; 1,648,690 in 1880; and 1,858,635 in 1890. Capital, Frankfort.

Government.—The following were the State officers during the year: Governor, Simon B. Buckner, Democrat; Lieutenant-Governor, James W. Bryan; Secretary of State, George M. Adams; Auditor, L. C. Norman; Treasurer, Stephen G. Sharp, who resigned on Feb. 20, and was succeeded by Henry Hale; Attorney-General, P. W. Hardin; Superintendent of Public Instruction,

Joseph D. Pickett; Insurance Commissioner, Henry T. Duncan; Register of the Land Office, Thomas H. Corbett; Commissioner of Agriculture, C. Y. Wilson; Railroad Commissioners, I. A. Spaulding, J. F. Hugar, W. B. Fleming; Chief Justice of the Court of Appeals, William H. Holt; Associate Justices, William S. Pryor, Joseph H. Lewis, and Caswell Bennett.

Population.—The following table shows the population of the State by counties, as ascertained by the national census of this year, compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Adair.....	18,078	18,721	643
Allen.....	12,080	18,692	1,668
Anderson.....	9,961	10,610	1,249
Ballard.....	14,875	8,390	*5,985
Barren.....	22,321	21,490	*631
Bath.....	11,982	12,813	831
Bell.....	6,005	10,812	4,807
Boone.....	11,996	12,246	250
Bourbon.....	15,356	16,746	1,020
Boyd.....	12,165	14,068	1,863
Boyle.....	11,980	12,948	1,018
Bracken.....	18,569	12,969	*5,600
Breathitt.....	7,742	8,705	963
Breckinridge.....	17,436	18,976	1,490
Bullitt.....	8,521	8,291	*230
Butler.....	12,181	13,956	1,775
Caldwell.....	11,293	13,186	1,904
Calloway.....	13,295	14,675	1,380
Campbell.....	37,440	44,208	6,768
Carr.....	7,612	7,612	0
Carroll.....	8,953	9,366	413
Carter.....	12,345	17,394	4,859
Cass.....	10,288	11,848	865
Christian.....	31,082	34,118	2,986
Clark.....	12,115	15,494	3,379
Clay.....	10,222	12,447	2,225
Clinton.....	7,212	7,017	*195
Crittenden.....	11,688	13,119	1,431
Cumberland.....	8,894	8,452	*442
Daviess.....	27,730	33,120	5,390
Edmonson.....	7,222	8,005	783
Elliott.....	6,567	9,214	2,647
Estill.....	9,890	10,806	916
Fayette.....	29,023	35,095	6,072
Fleming.....	15,221	16,078	857
Floyd.....	10,176	11,256	1,080
Franklin.....	18,699	21,267	2,568
Fulton.....	7,977	10,005	2,028
Gallatin.....	4,832	4,611	*221
Garrard.....	11,704	11,188	*566
Grant.....	19,083	12,671	*412
Graves.....	24,138	28,584	4,396
Grayson.....	15,754	18,668	2,904
Green.....	11,871	11,468	*408
Greenup.....	18,371	19,911	*1,460
Hancock.....	8,568	9,214	651
Hardin.....	22,564	21,804	*760
Harlan.....	5,278	6,197	919
Harrison.....	16,534	16,914	410
Hart.....	17,123	16,489	*694
Henderson.....	24,515	29,586	5,071
Henry.....	14,025	14,164	*96
Hickman.....	19,051	11,687	*7,364
Hopkins.....	19,122	28,565	9,443
Jackson.....	6,675	8,261	1,586
Jefferson.....	146,010	188,598	42,588
Jessamine.....	10,864	11,248	384
Johnson.....	9,155	11,027	1,872
Kenton.....	49,988	54,161	10,178
Knott.....	5,438	5,438	0
Knox.....	10,587	13,762	3,175
La Rue.....	9,793	9,488	*305
Laurel.....	9,131	10,747	1,616
Lawrence.....	13,262	17,702	4,440
Lee.....	4,274	6,305	1,931
Leslie.....	3,740	3,964	224
Letcher.....	6,091	6,920	819
Lewis.....	13,154	14,803	1,649
Lincoln.....	15,080	15,962	882
Livingston.....	9,165	9,474	309
Logan.....	24,358	28,412	*4,054
Lyon.....	6,768	7,028	260
Madison.....	22,052	24,548	2,496
Magoffin.....	6,944	9,196	2,252

COUNTIES.	1880.	1890.	Increase.
Marion	14,693	15,648	955
Marshall	9,647	11,287	1,640
Martin	3,057	4,209	1,152
Mason	20,469	20,778	304
McCracken	16,262	21,061	4,799
McLean	9,288	9,887	599
Meade	10,323	9,484	* 839
Menifee	3,755	4,666	911
Mercer	14,142	15,094	952
Metcalfe	9,423	9,871	448
Monroe	10,741	10,989	248
Montgomery	10,566	12,367	1,801
Morgan	8,455	11,249	2,794
Muhlenburgh	15,098	17,955	2,857
Nelson	16,609	16,417	* 192
Nicholas	11,869	10,764	* 1,105
Ohio	19,669	22,946	3,277
Oldham	7,667	6,754	* 913
Owen	17,401	17,676	275
Owsley	4,942	5,975	1,033
Pendleton	16,702	16,846	* 144
Perry	5,607	6,381	774
Pike	13,001	17,378	4,377
Powell	3,639	4,608	1,069
Pulaski	21,318	25,781	4,463
Robertson	5,814	4,684	* 1,130
Rock Castle	9,670	9,841	171
Rowan	4,420	6,129	1,709
Russell	7,591	8,196	605
Scott	14,965	16,546	1,581
Shelby	16,813	18,521	* 1,708
Simpson	10,641	10,878	237
Spencer	7,040	6,760	* 280
Taylor	9,259	9,328	69
Todd	15,994	16,814	820
Trigg	14,449	18,902	* 4,453
Trimble	7,171	7,140	* 31
Union	17,800	19,229	1,429
Warren	27,581	30,186	2,605
Washington	14,419	18,622	* 4,203
Wayne	12,512	12,852	340
Webster	14,246	17,196	2,950
Whitley	12,030	17,590	5,560
Wolfe	5,638	7,180	1,542
Woodford	11,800	12,880	1,080
Total	1,645,690	1,858,685	209,945

* Decrease.

Finances.—According to the report of the Auditor, the total balance in all the funds of the State treasury on June 30, 1889, was only \$72,926.24, while the general fund at that date showed a deficit of \$227,655.22. In spite of these facts, and against the strenuous objection of the Governor, the Legislature this year reduced the tax rate for the general fund from 20 to 15 cents on each \$100 of property. This reduction in the regular revenue for 1890 came at a time when large extraordinary expenses caused by the Constitutional Convention must be incurred, and the result has been a large increase in the deficit during the year. A report of the special commissioners appointed by the Legislature of 1888 to realize upon the funds and property of defaulting Treasurer Tate was made to the Legislature in April, showing that the loss to the State had been reduced to about \$46,000, with a probability that \$10,000 more would be realized before their labors were completed.

Valuations.—For 1889 the total value of property assessed for taxation was \$498,423,606, of which \$131,523,729 was the value of personalty and \$366,899,877 of realty. Included in the assessment were 25,477,063 acres of land, valued at \$228,568,596; town lots, valued at \$138,321,281; 579,424 cattle, valued at \$5,870,502; 545,936 sheep, valued at \$1,045,812; 1,003,680 swine, valued at \$3,892,438; and 377,352 horses of com-

mon stock, valued at \$19,774,600. The total assessment was increased by the State Board of Equalization to \$501,676,267. For 1888 the total county assessment was \$491,554,189, which was raised by the State board to \$492,653,132. The total rate of State taxation for 1890 was 42½ cents on each \$100.

Legislative Session.—The Legislature, which began its regular biennial session on Dec. 30, 1889, concluded its work on May 27. On Jan. 3, in joint session, it unanimously re-elected United States Senator Joseph C. S. Blackburn. On May 3 United States Senator James B. Beck died, and it became the duty of the Legislature to choose a successor for the unexpired term. There were numerous Democratic candidates, the most prominent of whom was Congressman John G. Carlisle. On the first ballot in the Democratic caucus he received 34 votes; William Lindsay, 26 votes; J. Proctor Knott, 27; Laban T. Moore, 12; James B. McCreary, 10; Evan E. Settle, 5. On the ninth ballot Carlisle received 73 votes, and Lindsay 43. On May 17, in joint convention, Carlisle was elected by a vote of 107 to 7 for Silas Adams, the Republican nominee.

The legislation of the session includes about 1,900 laws, of which hardly 100 are of a general nature. The most important act provides for the meeting on the second Tuesday of September of a convention to frame a new Constitution for the State. It is provided that an election for members to this convention shall be held at the time of the regular August election. A bill was passed over the Governor's veto, reducing the annual State tax rate for the general fund from 20 to 15 cents on each \$100, and making the total rate for all State purposes 42½ cents, instead of 47½ cents, as heretofore. The geological survey of the State was continued for two years and the sum of \$15,000 appropriated for its use during that time. The law authorizing the issue of lottery licenses by the State Auditor was repealed and the charters of six lottery companies heretofore specially granted by the Legislature were revoked. Another anti-lottery act prohibits the advertisement of lotteries in any paper sold in the State. An act was passed re-arranging the congressional districts of the State so as to make all but one surely Democratic. The Sinking Fund Commissioners were not, as heretofore, limited in their power of paroling prisoners to 5 per cent. of their number. The sum of \$10,000 was appropriated for the relief of the inhabitants of Clinton and vicinity, who were visited by a tornado on Jan. 12, and a similar appropriation of \$30,000 was made for the people of Louisville, who were similarly afflicted on March 28. Improvements were authorized at the Frankfort Penitentiary, and the Feeble-Minded and Deaf and Dumb Institutes each received appropriations. The Kentucky Soldiers' Home was incorporated, to provide a retreat for needy national or Mexican veterans, and was authorized to receive the moneys provided by Congress for aid to such homes. No financial aid was given by the State. The ex-Confederates of the State long since took steps to care for their needy comrades, but no provision has heretofore been made for soldiers who were in the national service.

Other acts of the session were as follow:

Authorizing the State to sue for delinquent taxes.

Prohibiting the sale or gift of cigarettes to persons under eighteen years of age.

Making it a felony for a person to point a loaded or unloaded weapon at another, and imposing a special penalty for shooting at a person from ambush.

Increasing the power of the railroad commissioners.

Appropriating \$9,956 for completing, and \$10,500 for furnishing, the new building for the Institution for Feeble-Minded Children.

County Debts.—The total debt of Kentucky counties in 1890 was \$5,741,636, a decrease of \$582,766 in ten years. Of this sum, \$5,479,677 is bonded and \$261,959 floating. Nearly one third of the counties are without debt.

Constitutional Convention.—The members elected on Aug. 4 to this convention assembled at Frankfort on Sept. 8, and were called to order by Gov. Buckner. Hon. George Washington was selected as temporary chairman. For permanent chairman or president of the convention Cassius M. Clay, Jr., was chosen. There was much delay before earnest work was begun, and at the end of a session lasting more than three months the new Constitution was far from complete. On Dec. 19 a recess was taken until Jan. 6, 1891.

Knott and Perry Counties.—In these counties the lawlessness of the people has been such as to prevent any administration of justice since 1888. They are mountain counties, accessible only on horseback. In the autumn of 1888, on the representation of Circuit-Judge Lilly, Gov. Buckner sent a detachment of troops to Perry County, to enable him to hold court in that county; but as he refused to allow the troops to proceed to Knott or Letcher Counties, no court was held therein. Of the condition of affairs in these counties, Judge Lilly says:

In the fall of 1888 I failed to hold the regular fall terms of the Letcher and Knott circuit courts, and in 1889 the regular fall terms of the Perry and Knott circuit courts. The counties of Knott and Perry are absolutely dominated and terrorized by savage and lawless bands. All respect for justice and the peaceful and orderly administration of the law is not only set at defiance, but the most high-handed outrages are perpetrated in the presence of the court, and with the purpose and object of terrorizing and intimidating the officers of justice. At the peril of my life, frequently narrowly escaping death, I have held the circuit courts in these counties. Before the fall terms for 1888 in these counties came on I had knowledge of feuds existing in both the counties of Knott and Perry of the most deadly and malignant character. Hostile, armed bands in these two counties constantly menaced each other. Deadly conflicts between the opposing factions were of almost daily occurrence. The circuit court drew together at the court house the factions from all sections of the county. A collision with unnecessary fatal and demoralizing results was inevitable.

Believing that the local authorities, if they should make proper efforts, could cope with the difficulties, the Governor has refused since 1888 to cause expense to the State by calling out the troops.

Green River Island.—The United States Supreme Court, in the case of State of Indiana ex. State of Kentucky, rendered an opinion on May 19 in favor of the claim of Kentucky to the ownership of Green River Island, in Ohio river. This island, nearly five miles long and more than half a mile wide, embracing about 2,000

acres, lies on what is now the north side of Ohio river, and, according to the description of her boundaries, would now belong to Indiana. But it was shown that when Kentucky became a State the main channel of the Ohio ran north of the island, and the jurisdiction and boundary of Kentucky then extended to the low-water mark on the north side of the channel, embracing the island within that State. These facts, as well as the long-continued jurisdiction of Kentucky over the island, were deemed conclusive. It was declared that the boundary line established at the time of the admission of Kentucky could not be changed by any subsequent changes in the conformation of the river.

Political.—The elevation of Congressman John G. Carlisle to the United States Senate caused a vacancy in the Sixth Congressional District, to fill which a special election was called on June 21. The Democrats, on June 11, nominated Worth W. Dickerson, after a remarkable contest in the nominating convention, which lasted through 267 ballots. The Republican candidate was J. Rairdon. The Democratic nominee was elected by a majority of about 3,500. The only State officer to be elected this year on a general ticket was a Clerk of the Court of Appeals. At a State Convention of Prohibitionists, on May 15, at Lexington, Mrs. Josephine K. Henry was nominated for this office. The Democratic State Convention met at Louisville on May 28, and nominated W. W. Longmoor on the twenty-fifth ballot. No Republican State Convention was held, but in June the Republican State Committee named J. H. Tinsley as the party candidate. The election, on Aug. 4, resulted in the success of the Democratic candidate by the usual majority. At the same time an election was held for members of the Constitutional Convention, which would meet in September. A large majority of the successful candidates were Democrats. A few representatives of the Farmers' Alliance and a few Republicans were chosen. On the same date Judge Lewis, of the Court of Appeals, was re-elected without opposition by the voters of his appellate district.

At the November election 10 Democratic and 1 Republican Congressman were elected.

KOCH, ROBERT, bacteriologist, born in Clausthal, Germany, Dec. 11, 1843. He is the son of an officer in the department of mines, attended the gymnasium in his native town, and from 1862 to 1866 studied medicine at Göttingen. He became an assistant in the General Hospital at Hamburg; began practice in 1866 at Langenhagen, and then settled at Racknitz, in Posen. From 1872 till 1880 he was district physician at Wallstein. He studied bacteriological diseases, including wound infections, septicæmia, and anthrax, or splenic fever, with great success and in 1880 was appointed a member of the Imperial Health Office. In 1885 he became director of the Hygienic Institute in Berlin.

About 1878 he made a report in reference to the bacterium that had been found associated with anthrax, or splenic disease. His investigations went to show that the potency of this organism lay in the spores, rather than in the developed bacterium. He found that, when no spores were visible in the dried diseased blood with which mice were inoculated, the power of

conveying infection lasted only for a few weeks; while blood in which the spores had separated continued virulent for four years. Living organisms had been observed in those infectious disorders which originate in the introduction of poisonous matter through wounds, but their connection with the development of the infection



ROBERT KOCH.

had not been determined. Dr. Koch's experiments with small animals showed that different forms of disease were produced by the injection of putrid blood, one of which was not accompanied by the development of bacteria, but seemed due to a special poison which he named *septin* or *sepsin*, while another form was evidently bacterial; and that the effects varied with different animals.

In 1882 he published the results of experiments that went to confirm the opinion that tubercular disease was also caused by microphytic germs. He claimed not only to have ascertained the bacterial origin of the disease, but to have detected the specific microbe, having found a characteristic and previously unknown bacillus in all tubercularly altered organs. He had observed it in pulmonary tuberculosis, cheesy bronchitis and pneumonia, tubercles of the brain, intestinal tubercles, serofulous glands, and fungous inflammation of the joints; in all cases which he had examined of spontaneous consumption in animals—in cattle, hogs, poultry, monkeys, porpoises, and rabbits. In monkeys dead of consumption he had found the organisms in quantities prevailing the lungs, spleen, liver, diaphragm, and lymphatic glands.

His report of this investigation was published in a Berlin medical journal, in a memoir on "The Etiology of Tuberculosis," of which Dr. Klein, a distinguished pathologist, said that any one who carefully reviewed it would "come to the conclusion that Dr. Koch's results are to be accepted with unconditional faith." Dr. Klein afterward disputed Koch's identification of the "comma bacillus" with the cause of cholera. In the next year a report was published by Watson Cheyne of a visit that he had made as a commissioner of the British Association for the Advancement of Medicine by Research, to the laboratory of Dr. Koch, and also to that of M. Toussaint, who was engaged in a similar investi-

gation. It represented that such results of Toussaint as disagreed with those obtained by Dr. Koch were not borne out. But the result of inoculation with cultivations obtained from Dr. Koch was in all cases rapid development of tuberculosis. The examination of a large quantity of tuberculous material showed the constant presence of tubercle bacilli, but of no other micro-organisms. The rapidity and certainty of action of this matter, when inoculated into animals, was in direct ratio to the number of bacilli introduced, and the most certain and rapid means of inducing tuberculosis seemed to be the inoculation of the tubercle bacillus cultivated on solid blood-serum.

When cholera broke out in Egypt in 1883, the German Government appointed Dr. Koch chief of a commission to go to that country, and to India, for the purpose of investigating the nature and cause of the disease. The report of the work of this commission in Egypt pointed out the line on which future studies were to be pursued. In experiments carried on in both living and dead subjects, while no distinct organism could be traced in the blood and the organs that are most frequently the seat of micro-parasites, bacteria having distinct characteristics were found in the intestines and their mucous linings, under circumstances that seemed to identify them with the disease from which the patients were suffering. They were present in the case of all patients suffering from cholera, and in the bodies of all who had died of it, whereas they were absent in the case of one patient who had had time to recover from cholera, but had died of some secondary complication; and they were not discoverable in the case of patients who, during the cholera epidemic, succumbed to other diseases. They were also the same with the bacillus that Dr. Koch had met the year before in the bodies of patients who had died of cholera in India. In 1884 Dr. Koch visited Toulon, where cholera was raging. The investigations of the German commission were continued in India, and his report on the subject was published in the "Klinische Wochenschrift" of Berlin, No. xxxiv, 1884. He had found, in the rice-water discharges of patients suffering from cholera, peculiar curved bacteria, which have become known as "comma-shaped" bacilli, such as he had not been able to discover in any cases of diarrhoea; and he had succeeded in isolating them by artificial culture. This he declared to be a specific micro-organism having marked characteristics distinguishing it from all other known organisms. These organisms grow rapidly in meat-infusion and blood-serum, and well in other fluids, especially milk, and in potatoes; and possess the power of active motion. They are not killed by freezing. They grow only in the presence of oxygen, and very fast; their vegetation rapidly reaches its highest point, then remains stationary for a time, after which it ceases as rapidly as it grew, and the bacilli die. When dried, they die within three hours; and they do not form spores. Micro-organisms possessing all of these and certain more delicate characteristics which are definitely described are Koch's bacilli.

The presence of these bacilli in cholera was determined by microscopical examination in ten cases in Egypt, and by microscopical examination

and cultivation in gelatinous meat-infusion in forty-two cases of *post-mortem* examination in India; and in numerous other cases of dejections in Egypt, India, and Toulon—giving a hundred cases in which the organisms were found. This was the only form of micro-organism that was constantly present in the disease. It was present in greatest numbers in acute and uncomplicated cases, and in the parts most affected; while it was never present in other diseases, and had not been found outside of the body where no cholera was in the neighborhood. Dr. Koch declared that no other conclusion could be arrived at than that these bacilli are the cause of cholera.

In the water of a tank whence the inhabitants of a village near Calcutta derived their supplies for drinking, cholera bacilli were found in considerable numbers when the cholera epidemic was at its height. At a later period, when there were only a few cases of illness, the comma bacilli were few, and found only at one part of the tank. This was the only instance in which

these bacilli were found outside of the body. Dr. Koch maintained that the natural history of the disease corresponds with the various characteristics of the organism in question. In experiments subsequent to this report, Dr. Koch succeeded in producing cholera by inoculation in some of the smaller animals. A bill was unanimously passed by the German Parliament, in 1884, awarding 135,000 marks to Dr. Koch and his companions in this research.

In 1890 he announced that he had discovered a prevention or remedy for tuberculous diseases, which consisted in inoculating the patient with a certain lymph, the composition of which was not disclosed. (See TUBERCULOSIS DISEASES.)

The principal published works of Dr. Koch are "Etiology of Splenic Fever" (1876); "Researches on Diseases of Wound Infections" (1878); "Inoculation for Splenic Fever" (1882); "Contributions to the Etiology of Tuberculosis" (1882); and contributions to transactions of the German Health Bureau.

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LITERATURE, AMERICAN, IN 1890.

During the year, in which book production was unusually active, falling but little short of that of that of 1886, America produced a few books of lasting value amid a vast number that were inferior—as much, perhaps, as she had a right to expect. The record of travel and exploration completed in 1890 will make the year memorable for all time, and successful books also mark other departments. Of the total 4,559 books recorded in 1890, against 4,014 in 1889, 3,080 were entirely new, nearly one third being novels; while of 3,533 made in this country, 2,800 were the work of American authors and translators, or adaptations by Americans to meet American needs. Only 733 were reprints, for the most part of paper-bound novels, and importations from England of books already in process of manufacture were also unusually few; while the passage of the International Copyright bill by the House of Representatives during the year gave stronger promise for the future of a more marked individuality in our national literature.

Fiction.—In 1890 there were printed 1,118 novels, of which 835 were new, the number being equally divided between American and foreign authors. The leading book of the year, as in 1889, was from Mrs. Margaret Deland, her "Sidney" proving as great a success as "John Ward, Preacher," and being considered by some an advance beyond that work, but good work was also done by other known and (for a time) unknown writers. From William D. Howells we had "The Shadow of a Dream," unsatisfactory as most of that author's works, but equal to the best in artistic treatment, and from Henry James, "The Tragical Muse," in some respects, for him, a new departure. F. Marion Crawford told "A Cigarette Maker's Romance," brief and pathetic, in his own inimitable way; while Lafcadio Hearn's "Yonma, a Story of a West Indian Slave," was a masterpiece of its especial kind. The scene of "Walford," by Mrs. Ellen Olney Kirk, was

laid in a New England manufacturing town; while Henry Harland (Sidney Luska) produced "Two Women or One?" from the MS. of Dr. Leonard Benary, extravagant but amusing, and "Two Voices," two short stories. "A Waif of the Plains" and "A Ward of the Golden Gate," by Bret Harte, belong to his earliest and best style; while Mrs. Amelia E. Barr published "Friend Olivia" and "The Household of McNeil," a Scottish story. Mrs. Van Rensselaer Cruger made her *debut* as an authoress, under the pseudonym of "Julien Gordon," in "A Diplomat's Diary," a charming story of European life, followed by "A Successful Man," purely American; and another sensation was occasioned by the publication, also anonymously, of "The Anglomaniacs," a fine piece of satire by Mrs. C. Burton Harrison. A second novel by the same lady was "Flower de Hundred," a story of a Virginia plantation. The Black Forest in the ninth century formed the background of Arlo Bates's "Albrecht"; while the problem of the negro is the real basis of "Pactolus Prime," by Albion W. Tourgee. Stories of army life by Capt. Charles King were "Starlight Ranch," "Sunset Pass, or Running the Gantlet through Apache Land," and "The Colonel's Christmas Dinner," the last edited by him merely. "A Web of Gold," by Katherine Pearson Woods, the acknowledged authoress of "Metzerott, Shoemaker," is strongly Socialistic in tone; while among books called forth by "Looking Backward," of Edward Bellamy, are "Looking Further Backward," by Arthur Dudley Vinton, and "Looking Farther Forward," by Richard Michaelis, both able and pungent replies; and "Cesar's Column, a Story of the Twentieth Century," written by Ignatius Donnelly under the name of Edmund Boisgilbert, M. D. "One of Berrian's Novels," by Mrs. C. H. Stone, is, presumably, a foretaste of those we shall have in the future, when "An Experiment in Marriage," devised by Charles J. Bellamy, shall have proved a success. Two other works

by the last-named author were "A Moment of Madness" and "Were they Sinners?" "A Dream of a Modest Prophet," by M. D. Leggett, and "The Auroraphone," by Cyrus Cole, are conceptions of an improved social condition, with a scientific basis; while "Asaph's Ten Thousand," by Mary E. Bennett, handles the labor question. Novels of local color are numerous. Among stories of the war are to be mentioned especially Miss Alice French's (Octave Thanet) first long story in book form, "Expiation," picturing Arkansas life in 1865; "Jack Horner," by Mary Spear Tiernan; "Two Loyal Lovers," by Elizabeth Winthrop Johnson; and "A Mountain-White Heroine," by James R. Gilmore (Edmund Kirke), who found her mission among the loyal mountaineers of western North Carolina. "Throckmorton," by Molly Elliott Seawell, "Aunt Dorothy," by Margaret J. Preston, and "Poky Clark," by N. D. Bagnell, are all Virginian; while "Widow Guthrie," by Richard M. Johnston, describes Georgia life before the war. Other Southern stories are: "A Kentucky Colonel," by Opie P. Read; "In God's Country," also Kentucky, by D. Higbee; "The Girl in Checks," by Rev. J. W. Daniel; "Kathleen Douglas," by Julia T. Bishop; and "Gilbert Elgar's Son," by Harriet Riddle Davis. "The Wilderness and the Rose," by Jerome J. Wood, belongs to Michigan; while "An Adirondack Cabin" is a family story by Margaret Sidney (Mrs. H. M. Lothrop). "The Demon Trapper of Umbagog," by D. P. Thompson, is a tale of the Maine forests. "Stories of New France" were told by Agnes Maule Machar and Thomas G. Marquis, in two series, and "The Story of Tony," by Mrs. Mary Hartwell Catherwood; while "Mamelons and Ungava" were "A Legend of the Saguenay," by W. H. H. Murray, who also described "How John Norton, the Trapper, kept his Christmas." Indian life is dealt with in "Wanneta, the Sioux," by Warren K. Moorehead, illustrated from life; "The Delight Makers," by Adolf F. Bandlerer; "A Novel of Pueblo Indian Life," and "The Bridge of the Gods, a Romance of Indian Oregon," by F. H. Balch. "A Chronicle of Conquest," by Frances C. Sparhawk, is a plea for Indian education. "Not of her Father's Race," by William T. Meredith, suggests the unfortunate life of a girl with African blood in her veins. Among historical novels the foremost place is to be given to "The Master of the Magicians" (the prophet Daniel) and "Come Forth," written in collaboration by Mrs. Elizabeth Stuart Phelps Ward and her husband, the hero of the last story being, as we infer from the title, the Lazarus of the New Testament. Others in which biblical characters figure are: "Belshazzar," by E. R. Roe; "A Son of Issachar, a Romance of the Days of Messias," by Elbridge S. Brooks; and "Leah, of Jerusalem," by E. Payson Berry, a story of the time of St. Paul. "The Genius of Galilee" was from the pen of Auson U. Haucock. "Dr. Le Baron and his Daughters" was "A Story of the Old Colony," by Mrs. Jane G. Austin, and "The Begum's Daughter," by Edwin Lasseter Bynner, pictured charmingly life in New York in 1689. "The Witch of Jamestown," as its title indicates, was a story of colonial Virginia, by James T. Bowyer; and to the same theme belong "Martha Corey: a Tale of Salem Witchcraft,"

by Constance G. Du Bois, and "The Fair Puritan," by H. W. Herbert (Frauk Forrester), prepared for publication in 1856, but given to the public for the first time in this year. "In the Valley," by Harold Frederic (who wrote, also, "The Lawton Girl," a pathetic story dealing with the social problem), pictures life in central New York in the Indian, French, and Revolutionary wars; and to the same time belong "A Loyal Little Red-coat," by Ruth Ogden, and "The Yankee Champion," by Sylvanus Cobb, Jr. "1791: a Tale of San Domingo," was written by E. W. Gilliam, M. D.; and "The Hidden Treasure, a Tale of Troublous Times" (in England in 1527-'38), by Lucy Ellen Guernsey. "Mrs. Reynolds and Hamilton," by George Alfred Townsend (Gath), revives many Revolutionary heroes, while here "The Demagogue," a posthumous political novel by David Ross Locke (Petroleum V. Nasby), may be mentioned. "Paoli: the Last of the Missionaries," gives a picture of the overthrow of the Christians in Japan in the seventeenth century; while "Honda, the Samurai," by Rev. William Elliot Griffis, D. D., author of "The Mikado's Empire," portrays graphically the Japanese feudal system and the causes which led to its overthrow, being largely historical, and written from an inside point of view. "Fra Lippo Lippi," by Margaret Vere Farrington, is a romance of Florence, with that monk as hero; and other novels of artistic tendency are "The Dominant Seventh," a musical story by Kate Elizabeth Clark, and "Brushes and Chisels," by Teodoro Serrao. "The Feet of Love" was the title of a novel by the poetess Anne Reeve Aldrich. Stories which portray American life of the present day are: "The Broughton House" of Bliss Perry, a new writer; "The Mistress of Beech Knoll," by Clara Louise Burnham; "Miss Brooks," by Eliza Orne White, who gives us the typical Boston girl; "Two Modern Women," by Kate Gannett Wells; "Leon Pontifex," by Sarah Pratt McLean Greene; and "Ascentney Street," by Mrs. A. D. T. Whitney. "With the Best Intentions," by Marion Harland (Mrs. M. V. Terhune), shows the evils of gossip and unfounded jealousy; while from Harriet Prescott Spofford we have "A Lost Jewel." Frank R. Stockton published "The Merry Chanter," in his own style, and "The Story of the Three Burglars." Bret Harte brought out "A Waif of the Plains," and Clara Louise Burnham "The Mistress of Beech Knoll." "A Connecticut Yankee in King Arthur's Court" is flippant, and shows Mark Twain in his most irreverent mood. "Nora's Return" is a sequel to "The Doll's House" of Ibsen, by Mrs. Ednah D. Cheney, and "Against Heavy Odds," a tale of Norse heroism, by Hjalmar H. Boyesen. "The Craze of Christian Engelhardt" was a study of an important phase of human consciousness made in a deeply religious spirit, by Henry Faulkner Darnell, and "Geoffrey Hampstead," by T. Stinson Jarvis, involves the question of heredity. Anna Katharine Green reappears before us in "The Forsaken Inn," while "The Aztec Treasure House" of Thomas A. Janvier is a realistic story of the wildly impossible. Other tales of adventure are: "The Captain of the Rajah," a story of the sea, by Howard Patterson; "The Princess of Montserrat," by William Drysdale; "The Captain of the Jani-

zaries," by James Ludlow, D. D., in a new issue; "A Real Robinson Crusoe," claimed to be the veritable experiences of a company of castaways on a Pacific island, edited by J. A. Wilkinson, from the survivor's narrative; and "The Log of the Maryland," by Douglas Frazier. "Love in the Tropics," by Mrs. Caroline Earle White, and "A Romance at the Antipodes," by Mrs. R. Dun Douglas, may be classed together, while "The Silver Caves," by Ernest Ingersoll, is a mining story of Colorado. Katherine Lee Bates had a single book, "Hermit Island." Society forms the theme of "Expatriation," by the author of "Aristocracy"; of "Miss Eaton's Romance, a Story of the New Jersey Coast," by Richard Allen; of "A Brooklyn Bachelor," by Margaret Lee; of "The Upper Ten," by W. H. Ballou; of "A Foreign Match," by Mary Healey (Mue. C. Bigot); of "Phæbe," by Mary Harriott Norris; of "A Millionaire's Wife," by Prudence Lowell; of "For a Mess of Pottage," by Sidney Lyon; and of "Juny, or only One Girl's Story; a Romance of the Society Crust, Upper and Under," by T. C. De Leon. "Mortal Lips," by Willis Steel, was a bright story of Harlem life to-day, told in a series of lively comediettas. Books written by women, each bright in their own way, were: "Stolen America," by Isobel Henderson Floyd; "The Beverleys, a Story of Calcutta," by Mary Abbott, author of "Alexia"; "The Dominie, or Reminiscences of a Girl's Life," by Sarah Bradford; "Her Great Ambition" (to become an artist), by Anne Richardson Earle; "Dorothy's Experience," by Adeline Trafton, now Mrs. Knox; "Poor and Plain," a story for elder girls, by Mrs. Seymour; "Dorothy Gray," by Mrs. H. B. Goodwin; "Other Folk," by Mrs. Nathaniel Conklin (Jennie M. Drinkwater); "Beside Still Waters," by Ella Clifford; "Knives and Forks, or Dwellers in Meriden," by Mrs. Frank Lee; and "A Plain Woman's Story," and "Sara Jane, a Girl of One Talent," both by Julia McNair Wright. "Diana's Livery," by Eva W. McGlasson, is a story of a Shaker community; while to temperance literature belong "The Hand with the Keys," by Kate W. Hamilton; "One Man's Struggle," by G. W. Gallagher; and "The Iron-Clad Pledge," by Jessie H. Brown. "In a Country Town," by Annette L. Noble, deals with the opium habit. The principal theological novel of the year was "Edward Burton," by Henry Wood, author of "Natural Law in the Business World"; while under this head belong, perhaps as well as anywhere, "Deacon Herbert's Bible-Class," by James Freeman Clarke, and "Samantha among the Brethren," by "Josiah Allen's Wife," a humorous and yet earnest protest against the decision of the General Conference of the Methodist Episcopal Church against admission of women as delegates. "Couldn't say No" and "All he knew," by John Habberton, bring that familiar author before us in a new light; while "The Story of a Heathen and his Transformation" is prettily told by H. L. Reade. "Philip, or what may have been," was a story of the first century, by Mary C. Cutler; and other books which convey instruction with a thread of romance are: "The Silent Land," by Minnie W. Baines; "Pleasing the King," by Fanny N. Nelson; "Think and Thank," by Samuel Cooper, a Jew-

ish tale founded on incidents in the life of Moses Montefiore; "One Little Maid," by Elizabeth Preston Allan; "A Little Leaven," by Elizabeth E. Holding; "Stephen Vane's Trust," by the author of "Frontier and City"; "Children of the Kalahari," by Annie M. Barnes; and "Only a Waif," by Eliza J. Page. "A Little Worldling" was by Ellis Worth (L. E. Ellsworth), and from Kirk Munroe we had "Under Orders," the story of a young reporter. "The Catholic Man" was a study by Mrs. Lawrence Turnbull, and "In Stella's Shadow," by Albert Ross, depicts humanity in its bald reality, with the object of elevating the morals of men. Edgar Fawcett doubtless anticipates a similar result from his four novels, "The Evil that Men do," "Fabian Dimity," "A Daughter of Silence," and "How a Husband forgave." "A Modern Marriage," by the Marquise Clara Lanza, stands at the head of sensational productions of the day, a few of which are "Margaret Byng," by F. C. Phillips; "Jack Gordon, Knight Errant, Gotham, 1883," by Barclay North (W. C. Hudson); and "Vivier, of Vivier, Longman & Company, Bankers," by the same author. "The Toltec Cup," by A. C. Wheeler, is a romance of immediate life in New York city; while "The Bank Tragedy," by Mary R. P. Hatch, is clever, though improbable. "Los Cerritos," by Gertrude Franklin Atherton, introduces a new dialect, of Southern California, while from Charles Howard Montagu we have two novels, "The Countess Muta" and "Written in Red," the last written in collaboration with C. W. Dyar. "Xenia Reprina" is a story of Russia, by Mrs. B. Macgahan, furnished with an introduction by Vassili Verestchagin. "Miss Nobody of Nowhere" was the production of Archibald Claverling Gunter. Novels occult and mysterious were: "Miss Mordeck's Father," by Fani Pusey Gooch; "A Strange Infatuation," by Lewis Harrison; "The Rajah's Heir," anonymous; "The Rich Man's Fool," by Robert C. Givens; and "Eastward, or a Buddhist Lover."

The best volumes of short stories were: "Vignettes Real and Ideal," edited by F. E. McKay; "Day and Night Stories," by T. R. Sullivan, said to recall Hawthorne; "A Little Book of Profitable Tales," by Eugene Field, forming a dainty volume; "Little Venice, and other Stories," by Grace Denio Litchfield, collected from the magazines; "Seven Dreamers," by Annie Trumbull Slosson; "Stories told at Twilight," by Louise Chandler Moulton; two volumes from Julian Hawthorne, "Kildrum's Oak, and a Strange Friend" and "Pauline"; "Real Happenings," by Mrs. Mary B. Claflin, unaffected and pleasing; "Strangers and Wayfarers," by Sarah Orne Jewett; "Short Sixes: Stories to be read while the Candle burns," by H. C. Bunner; "Told by the Fireside Stories," by E. Nesbit, Helen Milman, Mrs. L. T. Meade, and others; "In Poppy Land," by Mabel Louise Fuller, author of "The Aspen Shade" and "Stories about Famous Precious Stones," by Mrs. Goddard Orpen. "A Descriptive List of Novels and Tales dealing with American Country Life" was compiled by W. M. Griswold.

Juvenile Books, which of late years have assumed a place for themselves in literature, include: "A Boy's Town," the first venture of the kind by William D. Howells, and, which is, more-

over, largely autobiographical: "Little Saint Elizabeth, and other Stories," by Mrs. Frances H. Burnett; "The Winds, the Woods, and the Wanderer," by Lily F. Wesselhoeft; "The Kelp-Gatherers," a story of the Maine coast, by J. T. Trowbridge; and three books by W. O. Stoddard, "The Red Mustang," "Crowded Out of Cro-field," and "Chuck Purdy." "Wonderful Deeds and Doings of Little Giant Boab and his Talking Raven, Tabib," by Ingersoll Lockwood, and "Another Brownie Book," by Palmer Cox, belong together; while "Teetotaler Dick," by T. W. Knox, is a temperance story. "Too Late for the Tide-Mill," by Rev. E. A. Rand, has a moral, and "The Drifting Island, or the Slave Hunters of the Congo" was a sequel to "Kibboo Ganey," by Walter Wentworth. War stories for boys were: "On the Blockade," by Oliver Optic (W. T. Adams); "Rodney, the Partisan," by Harry Castlemon (C. A. Fosdick); "The Boy Spy," and "On the War Path," both by J. O. Kerbey; and "Crusaders and Captives, a Tale of the Children's Crusade," by G. E. Merrill. "Struggling Upward" was by Horatio Alger, Jr., who wrote also "The Odds against him," "Dear Daughter Dorothy," by A. G. Plympton; "Another Flock of Girls," by Nora Perry; "The Lion City of Africa," by Willis Boyd Allen; "Freshman and Senior," by Elvirton Wright; and "Finding Blodgett," by George W. Hamilton. Molly Elliott Seawell wrote "Little Jarvis"; Louis Pendleton, author of "In the Wire Grass," "King Tom and the Runaways," the story of what befell two boys in a Georgia swamp; and Grace Denio Litchfield, "Little He and She," "A Piece of Kitty Hunter's Life" was told by Mary E. Bamford, and from Frances Eaton came "Dollikins and the Miser." "Five Little Peppers Midway" was a sequel to "Five Little Peppers," by Margaret Sidney (Mrs. H. M. Lothrop), dear to all children's hearts, while in "Appleton's Fiction Series for Young Readers" we have "The Log School-House on the Columbia," by Ezekiah Butterworth, "Timothy's Quest," and "The Story Hour," by Kate Douglas Wiggin, are not to be forgotten, nor the "History of my Pets," by "Grace Greenwood" (Mrs. Sara J. Lippincott), a revised and enlarged edition of which was published during the year.

History.—This department received fewer additions than usual during the year, but paucity in numbers was more than compensated by the value of one contribution alone, "The History of the United States of America," by Henry Adams, completed in nine volumes, seven of which were published in 1890. The importance of the work in the new light thrown by it upon the periods covered is recognized beyond need of comment, while still another work of vast research is "The Genesis of the United States," compiled and edited by Alexander Brown. Constitutional history was enriched by "A Short History of Anglo-Saxon Freedom," by Prof. James K. Hosmer. In this connection "References to the Constitution of the United States," by William E. Foster, deserves mention, being No. 29 of "Economic Tracts," and "U. S.," an index to the United States, compiled by Malcolm Townsend, was intended as a handbook of references combining the curious in the history of our country. D. H. Montgomery outlined "The

Leading Facts of American History," Charles Morris wrote "An Elementary History of the United States," and Horace E. Scudder "A Short History of the United States for Beginners." "The World's Greatest Conflict," by Henry Boynton, was a review of French and American struggles for liberty during the period from 1775 to 1804, while from William Henry Hurlbert (though published in England) came "France and the Republic," visited by him in her centennial year. Foremost among State histories are Hubert Howe Bancroft's volume of his "History of the Pacific States," those published in 1890 being Vol. XIX, "California, 1860-1890," Vol. VII; Vol. XX, "Nevada, Colorado, and Wyoming, 1540-1888"; Vol. XXVI, "Washington, Idaho, and Montana, 1845-1889"; while Vols. XXXIII and XXXIV were successively entitled "Essays and Miscellany" and "Literary Industries." "Old California Days," by James Steele, and "The Argonauts of California," by C. W. Haskins, are reminiscences of pioneer and mining times, while "Wisconsin under French Dominion," by Rev. S. S. Hebbel, carries us to others even more remote. "The Story of Wisconsin," in the Story of the States Series, is by Reuben Gold Thwaites. The "History of Eastern Pennsylvania," by Rev. U. W. Condit, and the "History of West Virginia," by Virgil A. Lewis, are of local interest, as are the "Transactions of the Kansas State Historical Society," Vol. IV, Firman A. Rozier's "History of the Early Settlement of the Mississippi Valley" Berthold Fernow's "The Ohio Valley in Colonial Days," and "A History of Greeley, and the Union Colony of Colorado" was written by D. Boyd. The fifth volume of John Gorham Palfrey's "History of New England" completed that work, and Frances A. Humphrey told "How New England was made." "A Brief History of the Empire State" was written for schools and families, by Weland Hendricks, and "The New South" of Henry W. Grady was reissued, with a character sketch of the author, by Oliver Dyer. "The Discovery of the Ancient City of Norumbega," by Eben Norton Horsford, and "The Icelandic Discoverers of America," by Marie A. Brown (Mrs. John B. Shipley), are kindred in theme, while valuable papers of the American Historical Association were published in three parts of the fourth volume of its reports. To war history belong: "Freedom Triumphant," covering the fourth period of the war of the rebellion from September, 1864, to its close, by Charles Carleton Coffin; "Sketches of War History," published by the Ohio Commandery of the Loyal Legion; Jefferson Davis's "Short History of the Confederate States of America"; the "Defense of Charleston Harbor," by John Johnson; "The Civil War on the Border," by Wiley Britton; "Episodes of the Civil War," by George W. Herr; "Four Years in Rebel Capitals," by T. C. De Leon; "Prisoners of War and Military Prisons," being the personal experiences of Asa B. Isham, H. M. Davidson, and H. B. Furness. "Battlefields and Camp-Fires" was "A Narrative of the principal Military Operation of the Civil War from the Removal of McClellan to the Accession of Grant," by Willis J. Abbot, and fifty "Stories of the Civil War" were told by Albert F. Blais-

dell. "Massachusetts in the Civil War, 1861-1865" was from the pen of James L. Bowen, with an introduction by Henry L. Dawes. The two sumptuous illustrated volumes of a "History of the Seventh Regiment of New York, 1806-1889" were written by Col. Emmons Clark; and Lieut. Edward Duffy compiled from his diary a "History of the One Hundred and Fifty-ninth Regiment New York State Volunteers." "A Historical Register of the United States Army from its Organization, Sept. 29, 1789, to Sept. 28, 1889," was a valuable contribution by F. B. Heitman; "Soldier Life in the Army of Northern Virginia, Confederate States of America" was described by Carlton McCarthy, and W. D. Chesterman prepared a "Guide to Richmond and the Battlefields." The "Grand Army Picture Book," from April 12, 1861, to April 26, 1865, was the work of Hugh Craig. "Around the World with the Blue Jackets," by Henry E. Rhoades, described "How we displayed the American Flag in Foreign Waters." Indian wars are the theme of "War-path and Bivouac: or the Conquest of the Sioux," by J. F. Finerty, and Capt. King's "Campaigning with Crook," while the "Account of a Plan for civilizing the North American Indians, proposed in the Eighteenth Century," by John D. Hammerer, was edited by Paul Leicester Ford, as the first of a series of Indian tracts. "The Taking of Louisburg, 1745," was one of the "Decisive Events in American History," by Samuel Adams Drake, and R. S. Guernsey published Vol. I of "New York City and Vicinity during the War of 1812-1815." Other volumes of local value were "Proceedings and Papers relating to the Town of Lexington, Mass.," of which the first volume was published by the Historical Society of that place, and, also, Vol. I of "Records of the Town of Plymouth, 1636-1705." "The Intercourse between the United States and Japan" was an historical sketch by (Ota) Nitobe Inazo, in the "Johns Hopkins University Studies"; another of which was "Spanish Colonization in the Southwest," by Frank W. Blackmar. "A Short History of Mexico" was written by Rev. Arthur H. Noll; and in foreign history we have "The Two Lost Centuries of Britain," by W. H. Babcock; "An Outline History of England," by James R. Joy; and "The French Invasion of Ireland in '98," by Valerian Gribayedoff, claiming to be leaves of unwritten history. "A Short History of the Roman People," by Prof. W. F. Allen, forms Part II of the "Ancient History" of that author and P. V. N. Myers, while the "History of Egypt," by F. C. H. Wendell, is one of Appleton's History Primers. "The Centennial: a Jewish Calendar for One Hundred Years," was compiled by E. M. Myers. "The Influence of Sea Power upon History" was a study by A. T. Mahan, dealing with the period from 1660-1783. Prof. E. N. Horsford published "The Problem of the Northmen."

Biography.—"Abraham Lincoln: a History," by John G. Nicolay and John Hay, completed in ten volumes and given to the world in book form during the year, is the largest as well as one of the most important biographies published recently, while to the same theme belong "Abraham Lincoln's Pen and Voice," a compilation by G. M. Van Buren, and "Inside the White House

in War Times," by William O. Stoddard. Vols. V, VI, VII, and VIII of the "Writings of George Washington," edited by Worthington C. Ford, were issued, and another valuable work was begun in the "Writings and Correspondence of John Jay, First Chief Justice of the United States," edited by H. P. Johnston, in four volumes, only one of which appeared, "John Jay," in the "American Statesmen Series," was by George Pellw, while in the "Makers of America" we had the "Life of General Oglethorpe," by Henry Bruce; "George Calvert and Cæcilius, Barons Baltimore of Baltimore," by W. Hand Browne; and "Alexander Hamilton," by William Graham Sumner. "Our Early Presidents, their Wives and Children" was the work of Mrs. Harriet T. Upton, and "The Diary of William Pynchon of Salem" was edited by Dr. F. E. Oliver. "James G. Birney and his Times," by William Birney, gives "The Genesis of the Republican Party, with Some Account of Abolition Movements in the South before 1828," and in the series of "American Reformers" appeared "Wendell Phillips" and "William E. Dodge," by Carlos Martyn, and "Horace Greeley," by Francis N. Zabriskie. "Recollections of General Grant," by George W. Childs, were welcomed, as were "Orations and After-Dinner Speeches of Chauncey M. Depew," compiled and edited by Joseph B. Gilder, and Vol. III was also published of "Speeches, Arguments, and Miscellaneous Papers" of David Dudley Field, edited by Titus Munson Coan, M. D. "Richard Henry Dana" was a biography by Charles Francis Adams, in two volumes, and the "Life and Letters of Roscoe Conkling, Orator, Statesman, Advocate," were given to the world by Alfred R. Conkling. "Jefferson Davis, Ex-President of the Confederate States" was "A Memoir by his Wife," and "The Life and Reminiscences of Jefferson Davis, by Distinguished Men of his Time," was furnished with an introduction by Hon. John W. Daniel. "Henry Grady," by Joel Chandler Harris (Uncle Remus), contained that journalist's life, writings, and speeches. To literary biography belong "William Cullen Bryant" by John Bigelow, in the "American Men of Letters Series," and "Nathaniel Hawthorne," by Moncure D. Conway, in that of "Great Writers." "Talks with Ralph Waldo Emerson," were published by Charles J. Woodbury, and "Harvard Graduates whom I have known" was designed by Rev. Andrew P. Peabody as a sequel to his "Harvard Reminiscences." "Dear Old Story-Tellers" was by Oscar Fay Adams, and from Mrs. Sarah K. Bolton we have "Famous English Authors" and "Famous European Artists." Joachim Miller told "My Own Story." "Savonarola, his Life and Times," was an exhaustive study by Prof. William Clark, of Canada, and "Giordano Bruno" was the subject of two addresses by Daniel G. Brinton and Thomas Davidson. The "Autobiography" of Joseph Jefferson, charming in style and rich in anecdote, formed a volume of 500 pages, and two volumes were devoted to Gustav Kobbé to "Wagner's Life and Works." "A Sketch of Chester Harding, Artist, drawn by his Own Hand," was edited by his daughter, Margaret E. White. "Dr. Muhlenberg" was the contribution to the "American Religious Leaders" series, by William W. Newton, while "Theo-

dore Parker," a lecture by Samuel Johnson, author of "Oriental Religions," delivered in 1860, was edited by John H. Clifford and Horace L. Traubel. "The Life of Bishop Matthew Simpson of the Methodist Episcopal Church" was written by George R. Crooks, D. D., and Rev. E. J. Giddings compiled "American Christian Rulers." "Christian Types of Heroism" was a small volume from Dr. J. C. Adams. James C. Moffat, D. D., told "The Story of a Dedicated Life"—that of Dr. Joseph Owen, missionary to India, with a sketch of his son, Henry J. Owen—and "American Heroes on Mission Fields" was a collection of biographies edited by H. C. Haydn. The "Record of the Life and Work of the Rev. Stephen H. Tyng, D. D., and History of St. George's Church, New York, to the Close of his Rectorship" was compiled by his son, C. Rockland Tyng, and "The Life and Labors of Rev. Reuben Gaylord" were related by his wife. Theodore Appel was the author of "The Life and Work of John Williamson Nevin, D. D.," while "John Bachman, D. D., the Pastor of St. John's Lutheran Church, Charleston, S. C.," as we learn from his biographer, C. L. Bachman, was one of the pioneers of science in America, working with Audubon on "Birds of America." "The Story of my Life" was given us by B. W. Childlaw, D. D., and autobiographies which recall war times are "A Life's Retrospect" of Rev. Granville Moody, and "War Reminiscences" by the surgeon of Mosby's command, A. Monteiro, D. D. The remarkable career of a woman philanthropist is told by Francis Tiffany in "The Life of Dorothea Lynde Dix." William Conant Church, to whom the task was assigned by his friend, wrote "The Life of John Ericsson," inventor of the "Monitor," and "Heroes and Martyrs of Invention" were chronicled by George Makepeace Towle, in a very interesting volume. The "Life and Times of Ephraim Cutler," prepared from his journals and correspondence by his daughter, Julia Perkins Cutler, was an interesting supplement to "The Life, Journals, and Correspondence of Rev. Manassah Cutler," published in 1889, and deals largely with the early history of Ohio, as does "Alfred Kelley, of Ohio: his Life and Works," by Hon. James L. Bates, which was printed privately. The "History of the Girtys," by Consul W. Butterfield, belongs to Revolutionary border wars, while "Rachel Du Mont, a Brave Little Maid of the Revolution," was from the pen of Mary Westbrook. "Following the Guidon," by Mrs. Elizabeth B. Custer, was the history of Custer's camp life in Kansas during his Indian campaigns, and the "Memoirs" of Gen. Joseph G. Swift have an interest of their own as those of a distinguished engineer and the first graduate of West Point Military Academy. "Uncle Dick Wootton, Fifty-three years a Hunter, Trapper, Trader, Indian Fighter, and Government Scout," by Howard L. Conard, had an introduction by Joseph Kirkland. B. E. Martin, in his "In the Footprints of Charles Lamb," made a contribution to our knowledge of one of the most interesting of purely literary characters.

"Echoes from Niagara: Historical, Political, Personal," by Mrs. Richard Crowley, and "The Bench and Bar of Cleveland, Ohio," by James H. Kennedy and Wilson M. Day, found interest-

ed readers; while J. C. Rand compiled "One of a Thousand: Biographical Sketches of One Thousand Men resident in the Commonwealth of Massachusetts, 1888-1889." Vol. V of "American Ancestry" was published; and G. B. Kulp was the historian of "Families of the Wyoming Valley." S. P. Way wrote the "Sears Genealogy: the Descendants of Richard Sares (Sears) of Yarmouth, Mass., 1638-1888," and Curtiss C. Gardiner "Lion Gardiner and his Descendants, 1599-1890." Henry F. Reddall compiled "A Pocket Handbook of Biography," and "Henry M. Stanley"; and "Heroes of the Dark Continent" were enumerated by J. W. Buel. "Two Great Teachers," by James H. Carlisle, consisted of Johnson's "Memoir of Roger Ascham," and selections from "Stanley's Life of Thomas Arnold of Rugby," with introductions.

Poetry.—All work in this department was from younger writers, and there is little that is more than passable. Robert Louis Stevenson published a volume of "Ballads," his third of verse, and Richard Henry Stoddard collected his contributions to magazines into "The Lion's Cub, and other Verse." Eugene Field had "A Little Volume of Western Verse," while "Rhymes by Ironquill" (Eugene F. Ware) came fresh from Kansas. "Poems of John Hay" contained his "Pike County Ballads," twenty years old, with efforts of more recent date; and James Madison Cawein contributed "Lyrics and Idyls." "Rhymes of Childhood Days," by James Whitcomb Riley, "The North Shore Watch and other Poems, by George Edward Woodberry, "Easter Gleams," by Lucy Larecom, "In the Morning," by Willis Boyd Allen, "Poems," by Emily Dickinson, edited by two of her friends, Mabel Loomis Todd and T. W. Higginson, "Poems," by Edna Dean Proctor, "Lyrics for a Lute," by Frank Dempster Sherman, and "Verses Along the Way," by Mary Elizabeth Blake, with "The Inverted Torch," by Edith M. Thomas, and "Piero da Castiglione," by Stuart Sterne (Gertrude Bloede), have each individual claims to recognition; as has also "The Witch of Endor" and "Shadows and Ideals," by Francis S. Saltus, despite serious faults. Arthur W. Eaton was the author of "Acadian Legends and Lyrics," and M. M. Folsom of "Scraps of Song and Southern Scenes." "Mingled Memories" was the title of "A Packet of Poems, both Grave and Gay," by James Gordon Emmons; and "Poems of the Turf and other Ballads" were written by Emmons S. Price. Other volumes which require merely to be mentioned are: "The Harp of Hesper," by Mary E. Butters; "Vacation Verses," by Alice M. Dowd; "Rose Brake: Poems," by Danske Dandridge; "Magnolia Leaves," by Mrs. B. C. Rude; "Gnosses at the Beautiful," by John R. Realf; "In Many Moods," by Ralph H. Shaw; "Songs of Syracuse," by W. B. Shaw; "Driftwood," by W. W. Pfrimmer; "Spring and Summer," by W. T. Washburn; "A New Pilgrimage," by W. S. Blunt; "Vesper Bells," by W. T. Mercereau; and "Day Lilies," by Jeanie O. Smith. "Helen" was a poetical romance in the measure of "Lucile," by C. W. Waite. From Mrs. Sarah B. Stebbins we have "Galgano's Wooing," from Paul Elmer More "Helen," and Cornelius O'Brien, Archbishop of Halifax, was the

author of "Aminta," "Tisayac of the Yosemite," by Mrs. M. B. Toland, was beautifully illustrated, and "Young Konkapt, the King of the Utes," was "A legend of Twin Lakes," by Thomas N. Haskell. G. A. Buffum wrote "A Driftwood Fire"; Algernon S. Logan, "Messalina," a tragedy in five acts; and E. S. Martin brought out his "Little Brother of the Rich" in a volume with other poems. Milton S. Terry translated "The Sybilline Oracles" from Greek into English blank verse; while choice selections of poetry were made by Katherine Lee Bates in the "Ballad Book"; and by Jessie F. O'Donnell in her "Love Poems of Three Centuries, 1590-1890." An enlarged but cheaper edition was also made of "Famous Single and Fugitive Poems," edited by Rossiter Johnson. "Representative Sonnets by American Poets" (over 200 of whom are represented) were edited by Charles H. Crandall, and "American Sonnets" by T. W. Higginson and E. H. Bigelow. W. L. Fagan compiled "Southern War Songs: Camp-fire, Patriotic, and Sentimental," and T. W. Herringshaw "Local and National Poets of America," more than 1,000 living poets being included. "Under the Nursery Lamp" was an anonymous collection of poems about children, and for them Laura E. Richards wrote "In my Nursery," "Legends and Lyrics" and "Pastorals, Lyrics, and Sonnets" are volumes of selections from Whittier and Wordsworth, the first by S. W. Young. J. P. McCaskey published his seventh volume in the "Franklin Square Song Collection."

Criticism and General Literature.—Some of the best work of the year falls under this head. "Literature and Poetry," by Dr. Philip Schaff, was a series of essays on special literary topics and on great poems, principally religious, with an admirable and scholarly introduction devoted to the English language; and "Conversations in a Studio," by William Wetmore Storey, filled two delightful volumes. Hamilton Wright Mabie's reflections by "My Study Fire" exhibit at once power and sweetness, and from George E. Woodberry, the poet, we had "Studies in Life and Letters." Dr. Oliver Wendell Holmes held his own "Over the Tea-Cups" and "In a Club Corner" was "The Monologue of a Man who might have been Sociable," overheard by A. P. Russell. Edgar Saltus supplied papers on "Love and Lore," and Bishop Hugh Miller Thompson "Copy Essays from an Editor's Drawer on Religion, Literature, and Life." "Essays and Studies," by Basil L. Gildersleeve, close the class of essays proper, while "Studies in Literature and Style," by Theodore W. Hunt, stand at the head of specially directed efforts. "English Lands, Letters, and Kings," by Donald G. Mitchell, the first volume of which, published in 1880, covered the period "From Celt to Tudor," was continued "From Elizabeth to Anne" with unflagging interest. "English Poetry and Poets," by Sarah Warner Brooks, was a book needed for a long while, while "Hindu Literature" was the theme chosen by another lady, Mrs. Elizabeth A. Reed. "A History of Greek Literature" was written by Thomas Sergeant Perry; "A Primer of French Literature," by F. W. Warren; while that of America was treated by Albert H. Smyth in "American Literature." "A Synopsis of English

and American Literature," by G. J. Smith, and "A Digest of English and American Literature," by Alfred H. Welsh, equipped us for all possible needs; and the "Library of American Literature," edited by Edmund C. Stedman and Ellen M. Hutchinson, received its eleventh and final volume. "Our Book" was "An Exhaustive Store of Reminiscences and Literary Lore," collected by W. Frothingham and C. Tower. "Our Mother Tongue" was the subject of Theodore H. Mead, and "Pure Saxon English" that of Elias Molee. Alfred Hennequin discoursed upon "The Art of Play Writing," and T. Campbell Copeland was responsible for "The Ladder of Journalism" and instructions how to climb it. In archæology appeared "Races and Peoples" and "Essays of an Americanist," by Daniel G. Brinton, M. D., who also edited the "Rig Veda Americanus," sacred songs of the ancient Mexican; while books devoted to the mound builders were "The Cherokees in Pre-Columbian Times" of Cyrus Thomas, "The Antiquities of Tennessee," by Gen. Gates P. Thurston, "The Antiquities of the State of Ohio," by H. A. Shephard, and "Fort Warren," by Warren K. Moorehead, of the Smithsonian Institution, who surveyed it in 1889. "Our Race: its Origin and Destiny," by Charles A. L. Totten (with an introduction by C. Piazza Smith), was the first of a series of studies to prove the identity of the Anglo-Saxons with the ten lost tribes of Israel, while "Epitomes of Three Sciences," in one volume, by Profs. H. Oldenberg, Joseph Jastrow, and C. H. Cornhill, were respectively "The Study of Sanskrit," "Aspects of Modern Psychology," and "The Rise of the People of Israel." To myth and folk lore belong: "Myths and Folk-Tales of the Russians, Western Slavs, and Magyars" and "Myths and Folk-Lore of Ireland," by Jeremiah Curtin; "Turf-Fire Stories and Fairy-Tales of Ireland," by Barry O'Connor; and "Modern Fairy Lore," by Mrs. Adda F. Howie. "An Outline of Greek and Roman Mythology" was also made by Francis W. Kelsey. "English-Eskimo and Eskimo-English," were vocabularies compiled by Roger Wells, Jr., and J. W. Kelly, forming Circular of Information No. 2 of the Bureau of Education at Washington, and Charles Jonas published "Bohemian made easy," a practical course for English-speaking people. Nature studies include: "The Story of My House," by George H. Ellwanger, author of "The Garden's Story"; "The Garden as considered in Literature by Certain Polite Writers," a volume of selections by Walter Howe, accompanied with a critical essay; "Outings at Odd Times," by C. C. Abbott, M. D.; and "The Blessed Birds," a protest against their wanton destruction, by Eldridge E. Fish, the best authority on birds in western New York. "Brampton Sketches," by Mrs. Mary B. Claffin, picture old-time New England life, and T. C. De Leon described "Our Creole Carnivals." "Studies in Young Life" were "A Series of Word-Pictures and Practical Papers" by Bishop John H. Vincent, and "Here a Little and there a Little," essays, sketches, and detached thoughts of Anne W. Maylin, posthumously published. E. Chester discoursed on "Girls and Women" in the "Riverside Library for Young People"; "Forward March, through Battle to Victory" consisted of "Talks to Young People on Life and Success,"

by Rev. H. Tuckley; and B. M. Palmer, D. D., furnished hints on "Formation of Character." "The Spiritual Sense of Dante's *Divina Commedia*" was studied by W. T. Harris, United States Commissioner of Education, and Vida D. Seudder prepared "An Introduction to the Writings of John Ruskin," in the "Student's Series of English Classics." "The Puritan Spirit" was the theme of an oration delivered by R. S. Storrs, D. D., and E. F. Mason contributed a study of "The *Othello* of Tommaso Salvini," "Parsifal," by Albert Ross Parsons, is the first title of "The finding of Christ through Art, or Richard Wagner as Theologian," while to the occult belong "Hermetic Philosophy," Vol. I, anonymous, designed for students of the hermetic, Pythagorean, and Platonic sciences and Western occultism; "The Nature and Aim of Theosophy," by J. D. Buck, in a second, enlarged edition, and "Echoes from the Orient," by W. I. Judge (Occultus). "In and Out of Book and Journal" was a collection compiled by A. Sidney Roberts from sayings of the wise of all times, and from H. G. O. Blake we have "Thoreau's Thoughts," sympathetically edited, as were "Wellsprings of Wisdom: Selected Utterances from the Writings of Frederick W. Robertson," with an introduction, by Rose Porter. "The Best Elizabethan Plays" were edited by W. Roscoe Thayer, a new edition was made of "The Writings of James Russell Lowell," in ten volumes, and W. E. Henley published "Views and Reviews." In the "Knickerbocker Nuggets" "The Sayings of Poor Richard" were edited by Paul Leicester Ford. "The Wit on the Staircase" was by Frances Bennett Calhoun, and "The Old Meeting-House and Vacation Papers, Humorous and Others," of Rev. A. M. Colton, were collected by his brother, G. Q. Colton, while "Slang and its Analogues Past and Present" was a "Dictionary of the Heterodox Speech of all Classes of Society for more than 300 Years," compiled and edited by J. S. Farmer, only one volume of which saw the light in the year. "Webster's International Dictionary of the English Language," the revised and enlarged edition of the "Webster's Unabridged," made under the supervision of Noah Porter, D. D., completes a labor of ten years, and Vols. II, III, and IV were published of the "Century Dictionary," edited by William Dwight Whitney, the last containing the letters M to P, inclusive. In the four, 4,880 pages are embraced, and 152,000 words. "Our Dictionaries," by R. O. Williams, traces the growth of this class of work.

Political, Social, and Moral Science.—"Civilization, an Historical Review of its Elements," in two volumes, by Charles Morris, is a fit introduction to the topics covered by this head. To politics belong: "Civil Government in the United States, considered with Some Reference to its Origins," by John Fiske; "The Unwritten Constitution of the United States," a philosophical inquiry into the fundamentals of American constitutional law, by Prof. Christopher G. Tiedeman; and "The Veto Power: its Origin, Development, and Function in the Government of the United States, 1789-1889," in the "Harvard Historical Monographs," by E. Campbell Mason. A new edition was made of "Our Government," by Prof. Jesse Macy, published in 1886, but largely rewritten, and from Woodrow Wilson we

have "The State and Federal Governments of the United States." "National Needs and Remedies" was the title of the discussions of the general Christian Conference held Dec. 4, 5, and 6, 1889, in Boston, under the direction of the Evangelical Alliance of the United States, while "Our Destiny," by Lawrence Gronlund, considers the influence of nationalism on morals and religion. "Some Reprehensible Practices of American Government" were the subject of an address of Hon. David D. Field before the Reform Club of New York, delivered Jan. 10, 1890, and "Local Government in Wisconsin" was treated by D. E. Spencer in the "Johns Hopkins University Studies." "The Political Beginnings of Kentucky," by John Mason Brown, conclude with the admission of that State into the Union in 1792, and "City Government in Boston: its Rise and Development" were handled by H. H. Sprague. "A Handbook of Politics for 1890," by E. McPherson, is a record of important action, legislative, executive, and judicial, national and State, from Aug. 31, 1888, to July 31, 1890. "The Principles of Rational Taxation" were set forth by Simon N. Patten in the "Publications of the University of Pennsylvania," followed later in the year by "The Economic Basis of Protection;" and other tariff literature were: "What's the Matter? or our Tariff and its Taxes," by N. H. Chamberlain; "In Time of Peace prepare for War, or Tariff and Other Talks," by J. M. Graybill; and "A Handbook of the Tariff," by G. Huntington Adams, a revised edition of which was also published. "Why the Solid South?" was explained by Hilary A. Herbert, Zebulon B. Vance, John J. Hamphill, and others, in a volume bearing that title, while "Notes on the Progress of the Colored People of Maryland," by Jeffrey R. Brackett, in the "Johns Hopkins University Studies," supplemented his "Negro in Maryland" of last year. "The Negro Question" was discussed by George W. Cable, and "The Prosperity of the South dependent upon the Elevation of the Negro," shown by Louis H. Blair, author of "Unwise Laws," "Whites and Blacks," by C. H. J. Taylor, a young negro lawyer, and "Justice and Jurisprudence: an Inquiry concerning the Constitutional Limitations of the Thirteenth, Fourteenth, and Fifteenth Amendments" practically exhaust the theme. Thomas Gregg denounced Mormonism in "The Prophet of Palmyra," and Rev. M. W. Montgomery furnished "The Mormon Delusion, its History, Doctrine, and the Outlook in Utah." "Constitutional and Governmental Rights of the Mormons" were published anonymously at Salt Lake City. In political economy we have "First Lessons in Political Economy," by Francis A. Walker, for use in high schools and academies; "The Working Principles of Political Economy in a New and Practical Form," a book also for beginners, by S. M. Maevane; "The Distribution of Wealth," by Rufus Cope; "Want and Wealth," a discussion of some economic dangers of the day, by E. J. Shriver; and an "Economic and Social History of New England, 1620-1789," by W. B. Weedon. "The Industrial Transition in Japan," by Ono Yejiro, formed No. 1 of Vol. V. of "Publications of the American Economic Association."

"The Decay of our Ocean Mercantile Marine, its Cause and Cure," was an address delivered by

David A. Wells before the Reform Club of New York, October, 1889, and the same subject was treated by him in "The Question of Ships," published in the "Questions of the Day" series. "Money" was the speech of Hon. John P. Jones in the United States Senate on the free coinage of silver; J. H. Worcester, D.D., treated of "The Power and Weakness of Money," and "The Great Red Dragon; or London Money Power" was from the pen of L. B. Woolfolk. J. C. Schwab's "History of the New York Property Tax" was designed as an introduction to the history of State and local finance in that State, while "The Law of Wages" was explained by J. Richards as regards rate and amount. "Emigration and Immigration" was "A Study in Social Science" by Richmond Mayo Smith, and other important works were "Railway Secrecy and Trusts" by John M. Bonham, and "American Farms," by J. R. Elliott; both last in the series of "Questions of the Day." "Wheelbarrow Articles and Discussions on the Labor Question," by Wheelbarrow (M. M. Trumbull), are pertinent and valuable, "The Needs of Self-Supporting Women" were considered by Clara de Graffenreid in the "Johns Hopkins University Studies," and that lady and W. F. Willoughby divided the prize offered by Amélie Rives (Mrs. J. A. Chanler) for the best essay on "Child Labor," the two being published in one volume. "The Strike of Millionaires against Miners" was "The Story of Spring Valley," graphically told by Henry D. Lloyd; while opposite in tone was "Millionaires of a Day, an Inside History of the Great Southern California 'Boom,'" by T. S. Van Dyke. James C. Fernald wrote "The Economics of Prohibition," and "Midnight Talks at the Club," by Amos K. Fiske, include this topic with others, political and religious. Under social science are included: "The Ethical Problem," three lectures by Paul Carus; "Sociology," popular lectures and discussions before the Brooklyn Ethical Association by seventeen writers; "A Theory of Conduct," by Archibald Alexander; "Civil and Religious Forces," by W. Riley Halstead; "Live Questions, including our Penal Machinery and its Victims," by John P. Altgeld; "The Problem of Crime," a study in the treatment of criminals by William Trumbull; and "How the Other Half Lives," studies among the tenements of New York, by Jacob A. Riis, illustrated from photographs. "Political Americanisms" was a glossary of terms and phrases current at different periods in American politics compiled by Charles Ledyard Norton, while topics touched on by the "Modern Science Essayist" were: "The Evolution of the State," by J. A. Taylor; "The Evolution of the Wages System," by George Gunton; "The Growth of the Marriage Relation," by C. S. Wake; and "Evolution and Social Reform," J. W. Chadwick presenting "The Theological Method," H. O. Pentecost "The Anarchist Method," W. Potts "The Socialistic Method," and D. G. Thompson "The Scientific Method." "The Blind Men and the Devil," by Phineas, was an allegory on the the social conditions, and "Beneath Two Flags," by Maud B. Booth, wife of Marshal Booth, son of Gen. William Booth, leader of the movement, explained and vindicated the Salvation Army. Archibald Alexander published "A Theory of Conduct."

Theology.—In 1890 there were 467 books in theology, against 363 in 1889. "God in his World, an Interpretation," exalted and poetic, by Henry M. Alden, though published anonymously, was the most noted work of the class. Its own charm, and the circumstance of being written by a layman, give it deserved prominence. "God Incarnate" was the theme of the Bishop Paddock Lectures for 1890 by Rev. H. T. Kingdon, and George Park Fisher, D. D., published "The Nature and Method of Revelation." Bishop Hugh Miller Thompson delivered the Baldwin Lectures under the title of "The World and the Man," and "God in Nature and Life" was a memorial volume of selections from the sermons of Rev. Walter R. Brooks. "Belief in God" was the subject of Prof. J. G. Schurman in the Winkley (Andover) Lectures for 1890, and from Charles Loring Brace we had "The Unknown God, or Inspiration among the Pre-Christian Races." "The Evidence of Christian Experience," by L. F. Stearns, D. D., formed the Ely Lectures, while Randolph S. Foster preached (on the Merrick Foundation of the Ohio Wesleyan University) on the "Philosophy of Christian Experience." The Bedell Lectures of 1889 were by Rev. D. H. Greer, on "The Historical Christ, the Moral Power of History," and "The Voice of God in History" was a warning given by Rev. Robert P. Kerr. "Evidence of a Future Life from Reason and Revelation" was offered by Luther A. Fox, D. D., and "My Note-Book" by Dr. Austin Phelps, posthumously published, with an introduction by his daughter, Mrs. H. E. Ward, consisted of "Fragmentary Studies in Theology, and Subjects adjacent thereto." "Discussions," by Rev. Robert L. Dabney, in four volumes, edited by C. R. Vaughan, had the first volume printed, covering theological and evangelical questions, and the Princeton Lectures on the L. P. Stone Foundation were upon "The Church, her Ministry and Sacraments," by Rev. Henry J. Van Dyke, who also published two sermons entitled "God and Little Children." From Rev. Samuel Buel we have "A Treatise of Dogmatic Theology," in two volumes, and Vol VII was also published of "Current Discussions in Theology." "The Church's Certain Faith" were lectures prepared by Rev. George Zabriskie Gray (to be delivered on the Baldwin Foundation) posthumously published, and "Church Government" contained the substance of the teaching of forty years on the subject, compiled by Prof. Alexander T. McGill from his own lectures. Revs. W. D. Wilson and Nelson R. Boss enlarge further on the subject in "American Church Law" and "The Prayer-Book Reason Why." "Apostolic Organism" was treated by Dr. J. C. Magee, and Rev. J. M. Sterrett published "Studies in Hegel's Philosophy of Religion," with an appendix upon "Christian Unity." "The Philosophy of Preaching" was handled by Rev. A. J. F. Behrends, and "The Work of the Ministry" by Rev. W. P. Tilden. Rev. Theodore L. Cuyler told "How to be a Pastor," and Dr. G. B. Wilcox described "The Pastor Among his Flock." "Creed Revision in the Presbyterian Churches" was considered by Philip Schaff, D. D., in favor of the movement, the opposition being taken by W. G. T. Shedd, D. D., in "The Proposed Revision of the Westminster Standards," while "How

shall we revise the Westminster Confession of Faith?" consisted of papers edited by Charles A. Briggs, D. D. "Errors of Campbellism" were reviewed by T. McK. Stuart, D. D., and Rev. John H. Hopkins printed in book form "Articles on Romanism: Monsignor Capel; Dr. Littledale," first published in the "American Church Review." "Life inside the Church of Rome" was an exposition made by "The Nun of Kenmare," while "Who was Bruno?" by J. A. Mooney, gives the Catholic side of that famous controversy. Prof. George Trumbull Ladd wrote an "Introduction to Philosophy, an Enquiry after a Rational System of Scientific Principles in their Relations to Ultimate Reality," and J. P. Newman "The Supremacy of Law." From Dr. James McCosh we had a study of "Prevailing Types of Philosophy," as well as an enlarged and improved edition of "The Religious Aspect of Evolution," while "The Evolution of Man and Christianity," by Rev. Howard MacQuary, led to the trial of that clergyman on charge of heresy, by the Protestant Episcopal Church. "Evolution" was the title given to fifteen lectures and discussions before the Brooklyn Ethical Association, and "Semitic Philosophy," by Philip C. Friese, showed the ultimate social and scientific outcome of original Christianity in its conflict with surviving ancient heathenism. "Christian Socialism" was treated by Rev. P. W. Sprague, and from Revs. H. T. Bray and J. Conway we have "The Evolution of Life" and "Rational Religion." "The Way out of Agnosticism" was shown by Francis Ellingwood Abbot, and "Concessions of 'Liberalists' to Orthodoxy," by Daniel Dorchester, D. D., published in 1878, was reissued during the year. "Jewish Dreams and Realities" were "Contrasted with Islamic and Christian Claims" by Rabbi Henry Iliowizi, and Lorenzo Burge supplied a theory of his own as to the "Origin and Formation of the Hebrew Scriptures." "Judaism and Christianity" were dealt with by Prof. C. H. Toy. M. J. Barnett wrote a metaphysical work upon "The Five Redeemers," and "Liberty and Life" was a series of discourses by E. P. Powell, somewhat in the style of Robert G. Ingersoll, which last writer conducted a symposium with H. O. Pentecost and others entitled "Free Thought, is it destructive or constructive?" Hudson Tuttle had a volume on "Religion of Man and Ethics of Science," and "The World moves: all goes well" was the cheerful conclusion of "a layman." In religious history we have "Chapters from the Religious History of Spain," by H. C. Lea; "The Church in the British Isles," five lectures by as many divines of the Protestant Episcopal Church, delivered under the auspices of the Church Club of New York; a "History of the American Episcopal Church," by Rev. S. D. McConnell; "The Lutherans in America," by Edmund Jacob Wolf, D. D.; "The Presbytery of the Log College, or the Cradle of the Presbyterian Church in America," by Rev. Thomas Murphy; "Boston Unitarianism, 1820-1850," originally designed as a study of the life of Nathaniel Langdon Frothingham, by Octavius B. Frothingham; "Unitarianism," a course of sixteen lectures delivered in Channing Hall, Boston, by Rev. Joseph H. Allen, Andrew P. Peabody, and others; "Carmel in America, a Centennial History of the Discalceated Carmel-

ites in the United States," by Charles Warren Currier; "Roman Catholicism in America," by J. E. C. Bodley; and "Our Own Church" (the Methodist Episcopal), by Bishop John H. Vincent. "The Colored Man in the Methodist Episcopal Church" was the subject of a volume by Rev. L. M. Haygood, and "The Negro Baptist Pulpit" was a collection of sermons, papers, etc., by colored Baptist ministers, edited by E. M. Brawley, D. D. "The History of the Young People's Baptist Union of Brooklyn," by T. R. Jones; the "Annals of Trinity Church, Newport, R. I., by G. C. Mason; "The True Historic Episcopate, as seen in the Original Constitution of the Church of Alexandria," by Rev. Mason Gallagher; "The First Church, Quincy," a memorial of its two hundred and fiftieth anniversary, edited by Rev. D. M. Wilson; and the "History of the Old South Church, Boston," in two volumes, by H. A. Hill, are of local interest, while "Christian Missions in the Nineteenth Century" were treated by Elbert S. Todd, D. D. To biblical criticism and study belong: "The Bible verified," by Rev. A. W. Archibald; "Indications of the First Book of Moses, called Genesis," by E. B. Latch; the seven volumes of the "American Commentary on the New Testament," edited by Alvah Hovey; "The World lighted," a study of the Apocalypse, by C. E. Smith; "Word Studies in the New Testament," Vol. III, by Dr. Marvin R. Vincent; "Aids to Scripture Study," by Frederick Gardiner; "Bible Studies for 1891," by G. F. Pentecost, D. D., who published also "Israel's Apostasy, and Studies from the Gospel of St. John covering the International Sunday-School Lessons for 1891"; "English Bible Studies," by James C. Murray; the second series of "Studies in St. Luke's Gospel," by Charles S. Robinson, D. D.; and "Eschatology," by F. G. Hibbard, D. D. "The Lost Tribes of Israel" were the theme of C. L. McCartha, and also of Charles A. L. Totten in "The Voice of History." "The Sabbath in History" was treated by Rabbi I. Schwab. "Personal Creeds," by Newman Smyth, was a timely volume, and "Prayer as a Theory of Fact," by D. W. Faunce, D. D., received the Dartmouth prize for 1889. Among sermons are to be noted "Five Sermons," by Bishop H. B. Whipple, preached on special occasions; "The Calvary Pulpit; Christ and him crucified," by Rev. R. S. MacArthur; "The Light of the World and other Sermons," by Philips Brooks, D. D.; "The Causes of the Soul," by Rev. W. R. Huntington; "The Seven Churches of Asia, or Worldliness in the Church," by Howard Crosby, who also published separately "Will and Providence" and the "Good and Evil of Calvinism"; "Peculiarities of the Disciples," by B. B. Tyler; "Trumpet Peals," by Rev. T. DeWitt Talmage; "Sermons and Lectures," by J. F. Loughlin, D. D.; "Burning Questions," by Rev. Washington Gladden; "The Person and Ministry of the Holy Spirit," twelve sermons by as many speakers, edited by A. C. Dixon; and "Cities of Our Faith," by Rev. S. Lunt Caldwell. "Outpourings of the Spirit" was a narrative of spiritual awakenings in different ages and countries, by Rev. W. A. McKay, and "Why not and why," short and plain studies for the busy, by Rev. W. Dudley Powers. "The Ten Commandments in the Nineteenth Century"

was a book by F. S. Schenck, and J. W. D. Anderson compiled "The Kansas Methodist Pulpit," twenty-four sermons by Bishop W. X. Ninde and others. From the writings and speeches of Dr. Charles F. Deems were framed "Chips and Chunks for Every Fireside" and "Weights and Wings," a book for the family, while sayings of Minot J. Savage fill three volumes — "Life," "Signs of the Times," and "Helps for daily living." "The Crown of Life," from the writings of Henry Ward Beecher, was edited by Mary S. Haynes. "Holy Wisdom," by Father F. A. Baker, contained directions for the prayer of contemplation; and from J. L. Brandt and Monroe C. Aurand, we have respectively "Turning Points" and "Rays of Light." Rev. C. Follen Lee was the author of "The Birth from Above." "The Sunday-School Primary Teacher's Manual" was the work of Louise O. Tead, and Jesse L. Hurlbut, D. D., and Robert R. Doherty, furnished "Illustrative Notes" on the Sunday-school lessons for 1891, while the sixteenth series of the "Monday-Club" sermons on the same was also issued. "Studies in Bible and Church History" were prepared Rev. by L. F. Young for the use of Epworth Leagues, and from Jacob E. Price we have "Epworth League Workers." The "Divine Rod and Staff in the Valley of the Shadow," by Rev. J. M. Anspach, contained consolatory thoughts for the dying and bereaved, and "The Day's Message" was chosen and arranged by Susan Coolidge (Sarah C. Woolsey). "Gold Nails to hang Memories on" was a somewhat similar volume by Elizabeth A. Allen. "The Story of the Tunes" was told by Hezekiah Butterworth, and Edmund S. Lorenz compiled "The People's Hymnal," as did Mills Whittlesey and A. P. Jamieson "Harmony in Praise," "Chimes for Church Children" were from the pen of Margaret J. Preston. "The Miracles of our Saviour" were expounded and illustrated by William M. Taylor, D. D., and "From Beginning to End" consisted of comments on the life of Christ by ten of the most prominent clergymen in America. "The Trial of Jesus from a Lawyer's View" was contributed by C. H. Blackburn; and "Jesus of Nazareth" was the title of three lectures before the Young Men's Christian Association of Johns Hopkins University, by J. A. Broadus. Rev. William M. Campbell wrote "The Footprints of Christ," and "The Life of Jesus Christ in Picture and Story" was supplied by Louise S. Houghton. J. Glenworthy Butler, D. D., consolidated the four gospels into one continuous narrative in "The Fourfold Gospel," as did Arthur T. Pierson in "The One Gospel."

Jurisprudence.—Increase in the production of law books during the year was slight. "The Supreme Court of the United States," in the "Johns Hopkins University Studies," was from the pen of Westol W. Willoughby, and "Germs and Development of the Laws of England" were traced, with notes and comments, by John M. Stearns. Prof. George E. Howard wrote "On the Development of the King's Peace, and the English Local Magistracy," and Ashton R. Willard prepared "A Legislative Handbook relating to the Preparation of Statutes." "Jurisdiction" was treated by Joseph H. Vance, and "The Law of Private Right," by G. H. Smith. "Rights, Remedies, and Practice at Law," by J. D. Lawson,

the first two volumes of which were published in 1880, was completed in five additional volumes, while from Melville M. Bigelow we had "A Treatise on the Law of Fraud on its Civil Side," in two volumes. "A Treatise on the Law of Public Offices and Officers," was by Floyd R. Mechem, while from J. G. Hawley we have "Interstate Extradition" and "Useful Knowledge about the Law of Land Buyers." "The Suggestion of Insanity in Criminal Cases and the Trial of the Collateral Issue" was by W. W. Carr. Oliver L. Barbour published "A Treatise on the Rights of Persons and the Rights of Property," in two volumes, and J. E. Cobbe "A Practical Treatise on the Law of Replevin." "The Law of Trusts and Trustees," by James H. Flint, "A Treatise on the Law of Record of Title of Real and Personal Property," by Britain R. Webb, and "A Treatise on the American Law of Vender and Purchaser of Real Property," by G. W. Warvelle, may be classed together, as may "The Rules of Pleading Under the Code," by Edwin Baylies, "A Treatise on Pleading and Practice in Equity in Courts of the United States," by Roger Foster, and a "Synopsis of a Course of Lectures on Pleading at Common Law," delivered by George Wharton Pepper. "A Treatise on the Law of Patents for Useful Inventions" was written by W. C. Robinson, in two volumes, and Woodbury Lowery edited "Decisions on the Law of Patents for Inventions," Vols. XII, XIII and XV, and also Vols. XII and XIII of "Broderick's American and English Patent Cases." "Notes on Patents" were made by C. S. Whiteman and Ernest Wilkinson. E. S. Beach prepared "A Digest of the Decisions of Law and Practice in the Patent Office from 1880 to 1890," and Miss V. W. Middleton compiled "Names and Addresses of Attorneys practicing before the United States Patent Office." H. N. Copp published "United States Public Land Laws," passed from April 1, 1882 to Jan. 1, 1890, and E. F. Pugh, "Forms of Procedure in the Court of Admiralty of the United States." From W. H. Browne we have "A Commentary on the Law of Divorce and Alimony," and "Adoption and Legitimation of Children" was a brief by Joseph A. Joyce, B. F. Dos Passos treated "The Law of Collateral Inheritance, Legacy, and Succession Taxes," and Robert H. McClellan framed "The Executor's Guide." W. W. Thornton wrote "A Monograph on the Law of Lost Wills." Vol. IV was issued of "Select Cases and Other Authorities on the Law of Property," by John Chipman Gray, and "The Law of Real Estate and Conveyancing in Pennsylvania," by E. C. Mitchell, was prepared for the press by Robert Ralston. "The Law of Defamation, Libel and Slander," was by Martin L. Newell, "Field's Justice's Manual," by George W. Field; while from J. C. Grannan came a "Warning against Fraud, and Valuable Information." On corporations we have: "A Concise Treatise on the Law of Corporations having Capital Stock," by C. T. Haviland; "The Law of Business Corporations," by James M. Kerr; and "Bank Officers," by Albert S. Bolles; while "Railroad Securities," in a second revised edition, by Leonard A. Jones, received the title of "A Treatise on the Law of Corporate Bonds and Mortgages." "The New Corpora-

tion Laws of the State of New York" were published as revised in 1890, as was Vol. I of "The Annual Insurance Digest for the Court Year 1888-1889," by J. S. Bloomington, and "Statutory Requirements relating to Insurance in the United States and Canadas," corrected to Dec. 1, 1889. "American and English Corporation Cases" were augmented by Vols. XXVI, XXVII, XXVIII, XXIX and XXX, and "American and English Railroad Cases," by six volumes, the last being the forty-third. "The Modern Law of Railways" was set forth by Charles Fisk Beach, Jr., in two volumes, and he was also the author of "The Annual Digest of Railway Decisions and Statutes, American and English," for 1889, and Vol. VI of American Probate Reports. "The Modern Law of Carriers" was by Everett P. Wheeler; "The Law of Roads and Streets," by Byron K. and W. F. Elliott; while C. A. Richardson and A. J. Hook edited Vol. I of "American Street Railway Decisions." "Advice on Note Forms" was given by W. C. Sprague, and W. M. Rockel and C. R. White produced together "Mechanics' and Sub-Contractors' Liens." "A Treatise on the Law of Fellow-Servants" was from William M. McKinney.

In addition to "Constitutional Annotations" of J. Warner Mills, Vols. X to XV of "American State Reports," by A. C. Freeman and others, Vols. CXXXII to CXXXVI of "United States Reports" (of the Supreme Court), and the "Complete Digest," edited by E. A. Jacob and others, numerous volumes were published of statutes and laws of the several States, among which may be mentioned: "A Digest of New York Statutes and Reports from July, 1882, to Jan. 1, 1890," by Austin Abbott (who also sent out Vols. XXII, XXIII, and XXIV of "New Cases"); "The New York Code of Civil Procedure," with notes by Montgomery H. Throop; "The Town-Meeting, a Manual of Massachusetts Law," by Austin De Wolf; "A Treatise on the Laws of Texas relating to Real Estate," by J. and H. Sayles; "A Treatise on the Laws of West Virginia," by John A. Hutchinson; "The Probate Law and Practice in the Courts of Mississippi and Tennessee," by James R. Chalmers; "The Pacific Coast Collection Laws," by J. H. Jellott; "Kentucky Jurisprudence" in four books, by L. N. Dembitz; "Forms in Civil Actions and Proceedings in the Courts of Record of Wisconsin," by E. E. Bryant; and "Laws and Ordinances governing the City" of Chicago, as in Force April 2, 1890, by J. Hutchinson and M. W. Robinson. The "Adopted Code for the Territory of Oklahoma" was also published, and permanent editions were made of "Northwestern," "Southwestern," "Atlantic," "Pacific," "Southern," "Southeastern," and "Northeastern" "Reporters." Vol. VI of "Lawyers' Reports, Annotated," covered all current cases of general value and importance decided in the United States, State, and Territorial Courts. The "American and English Encyclopædia of Law," compiled under the supervision of J. Houston Merrill, reached Vol. XIII during the year, and a "Consolidated Index" was published of subjects treated upon in the Law Text Book Series of thirty-six volumes. W. E. Wernise's "American Law Digest and Legal Directory" and "Story's Legal Digest and Direct-

ory of Lawyers" (the fifth annual issue) were useful and necessary works, as were J. B. Martindale's biennial "American Law Directory" for 1890-'91, and "Sharp and Allen's Lawyers and Bankers' Directory for 1890." "The Johnson Prize Essays from Various Law Schools" were edited by George W. Pepper.

Medicine and Surgery.—Vol. I of "Materia Medica, Pharmacology, and Therapeutics," by J. V. Shoemaker and J. Aulde, was published; and from the first author we have also "Hereditarity, Health, and Personal Beauty." Hobart A. Hare supplied "A Text-Book of Practical Therapeutics," and, in the "Physicians' and Students' Ready Reference Series," "Epilepsy"; while Lavinia L. Dock compiled "A Text-Book of Materia Medica for Nurses." "Philosophy in Homœopathy" was addressed to the medical profession and to the general reader by C. S. Mack, and "Essentials of Legal Medicine, Toxicology, and Hygiene" were set forth by C. E. A. Semple. John E. Clark edited "Physical Diagnosis and Practical Urinalysis," Edwin B. Craig arranged the "Essentials of Gynecology" in the form of questions and answers for students, and "Abortion and its Treatment" was the subject of a course of lectures delivered by T. Gaillard Thomas before the College of Physicians and Surgeons of New York. "Spinal Concussion" was written upon by S. V. Clevenger, and from A. Jacobi we have "A Treatise on Diphtheria." R. C. M. Page prepared "A Handbook of Physical Diagnosis of Diseases of the Heart and Respiratory Organs and of Thoracic Aneurism"; M. Allen Starr had a book upon "Familiar Forms of Nervous Disease," and W. Bevan Lewis wrote "A Text-Book of Mental Diseases." "Diabetes" was the theme of C. W. Purly, "Essentials of Diseases of the Skin" of H. W. Stelwagon, and "Essentials of Refraction and the Diseases of the Eye" of E. Jackson. "A Text-Book on Diseases of the Eye" was also supplied by Henry D. Noyes. J. Collins Warren wrote on "The Healing of Arteries after Ligature," and H. N. Martin on "The Human Body and the Effect of Narcotics"; while "The Elixir of Life: Dr. Brown-Séquard's Own Account" was by Newell Dunbar. Douglas Graham supplemented his "Treatise on Massage," of which a second revised and enlarged edition was made, by "Recent Developments in Massage," and "Massage and the Original Swedish Movements" were described by Kurro W. Ostrom. The "Essay on Medical Pneumatology and Afrotheropy" of J. N. Denarquay was translated by S. S. Wallian, and "Practical Electricity in Medicine and Surgery" came from G. A. Liebig, Jr., and G. H. Rohe. "The Principles and Practice of Modern Surgery" were set forth by John B. Roberts, and "Principles of Surgery" by Nicholas Senn. An important work was "A Treatise on Orthopedic Surgery" by E. H. Bradford and Robert W. Lovett, and a second revised and enlarged edition was made of "The Principles and Practice of Surgery" by Dr. D. H. Agnew, in three volumes. "The Rules of Aseptic and Antiseptic Surgery," by A. G. Gerster, were also issued in a new revised edition, as was "A Text-Book on Surgery: General, Operative, and Mechanical" by John A. Wyeth; and from Frederick James Gant we have "The

Students' Surgery. The eleventh volume of the "Index Catalogue of the Library of the Surgeon-General's Office" was brought out, and Dr. J. S. Billings, U. S. A., and others published "The National Medical Dictionary," in two volumes. Vols. I and II of an "Illustrated Encyclopedic Medical Dictionary" by Frank P. Foster, in four volumes, also appeared. Still another "New Medical Dictionary" was the work of George M. Gould. In the "Series of Clinical Manuals" "The Pulse" was by W. H. Broadbent, and "Food in Health and Disease" by I. B. Yeo. "Wood's Medical and Surgical Monographs" were continued, and "An Epitome of 'Tripler's Manual' and other Publications on the Examination of Recruits" was made for the guidance of recruiting officers of the United States army by Charles R. Greenleaf. "Post-Mortems," by A. H. Newth, was edited with notes and additions by F. W. Owen. "Hygiene of Childhood," by Francis H. Rankin, and "Dust and its Dangers," by T. Mitchell Prudden, were timely volumes; as were also "Highways and Byways to Health," by C. A. Hoff, and "How to preserve Health," by L. Barkan. W. M. Capp published "The Daughter, her Health, Education, and Wedlock," while "Practical and Scientific Physiognomy," by Mary O. Stanton, filled two volumes. A. M. Bell had also "A Popular Manual of Vocal Physiology and Visible Speech." "A Text-Book of Comparative Physiology," for students and practitioners of veterinary medicine, was furnished by Wesley Mills, and "Diseases of Live Stock" were treated by W. B. E. Miller, Willis P. Hazard, and others. The "Evolution of Medical Science," in the "Modern Science Essayist," was by R. G. Eccles.

General Science.—As in several years past, no additions of striking value have been made to science proper, while a few good books of a popular order are to be recorded. "The World Energy and its Self-Preservation," by W. M. Bryant, "Principles of Science," by W. W. Felts, "Protoplasm and Life," two biological essays by C. F. Cox in "Fact and Theory Papers," "Experimental Science," by George M. Hopkins, and a "Laboratory Manual of Experimental Physics," by Albert L. Arey, are general in character. From Prof. Charles A. Young we have "The Elements of Astronomy," a text-book for use in high schools and academies, with a uronography; and Lucien Young's "Simple Elements of Navigation" may be mentioned in this connection as akin in theme. "The Trees of North-eastern America," by Charles S. Newhall, supplies useful information in an attractive manner, and Vol. I was also published of "The Silva of North America," by Charles S. Sargent, with figures and analyses drawn from nature by Charles E. Faxon. "Elements of Structural and Systematic Botany" were set forth by Douglas H. Campbell, Mara L. Pratt described "The Fairyland of Flowers," and a "Synopsis of the Genus *Arthonia*" was made by H. Willey. H. C. McCook, D. D., devoted three large volumes to "American Spiders and their Spinning Work," two of which were published during the year, and Parts IX and X of the third series of "Butterflies of North America," by W. H. Edwards were issued. "North American Geology

and Paleontology" was by Samuel A. Miller, and that author, with F. E. Gurley, wrote "A Description of Some New Genera and Species of Echinodermata." "On the Hills" was a series of geological talks by Frederick Starr, and a second revised and enlarged edition was made of "An American Geological Railway Guide," edited by James R. MacFarlane. "Characteristics of Volcanoes" were traced by Prof. James D. Dana, with contributions of facts and principles from the Hawaiian Islands, and a new edition was made of his "Corals and Coral Islands." "Gems and Precious Stones of America" filled a volume by G. F. Kunz. "The Tornado," by Prof. H. A. Hazen, of the United States Signal Service, "The Ocean of Air," by Agnes Giberne, and "The Physical Properties of Gases," by Arthur L. Kimball, are excellent of their kind, while "Heat, as a Form of Energy," was considered by Robert H. Thurston, who published also "A Handbook of Engine and Boiler Trials." "The Cosmic Law of Thermal Repulsion" was an anonymous essay suggested by the projection of a comet's tail. The Lauborn prize essays, by working entomologists, were published under the title of "Dragon Flies vs. Mosquitoes," and Ella Rodman Church described "Water Animals." "Fur, Feathers, and Fuzz," was by James Steele, and "The Taxidermist's Manual," by Graham Allen. In mathematics, which were well represented, we have "An Elementary Treatise upon the Method of Least Squares," by Prof. George C. Comstock; "The Directional Calculus," by Prof. E. W. Hyde, based upon the methods of Hermann Grassmann; "Elements of the Differential and Integral Calculus," by Prof. Arthur Sherburne Hardy; Part II of "Numbers Universalized," by David M. Sensenig; "An Introduction to the Logic of Algebra," by Ellery W. Davis; "Lessons in Number," by Francis Cogswell; "Elliptic Functions," by Arthur L. Baker; and "Elements of Plane and Spherical Trigonometry," by Edwin S. Crawley. "The Principles of Psychology," by W. James, filled two volumes, and H. S. Drayton, M. D., wrote upon "Human Magnetism." "The Time Relations of Mental Phenomena" were the theme of Prof. Joseph Jastrow, and to applied science belong; "Electricity in Daily Life," by C. F. Brackett, F. L. Pope, and others; "Experimental Electricity" and "How to make Electric Batteries at Home," by E. Trevert; "Electricity for Engineers," by C. Desmond; "Electric-Bell Construction," by F. C. Allsop; "Electro-motors" and "Electric Bells," by S. R. Bottonne; and "A Dictionary of Electrical Words, Terms, and Phrases," by E. J. Houston; "A Text-book of Assaying," by J. J. and S. C. Beringer. "The Metallurgy of Steel," by H. M. Howe; "Modern American Methods of Copper Smelting," by E. D. Peters, Jr.; "The Lixivation of Silver Ores," by C. A. Stetefeldt; Vol. II of "Metallurgy of Silver, Gold, and Mercury in the United States," by T. Egleston; "The Hydraulic Gold-Miner's Manual," by T. S. G. Kirkpatrick; "The Metal-Worker's Handy Book of Receipts and Processes," edited by W. T. Bramt; a new edition of Prescott's "Electric Telephone"; and "Sugar Analysis," by Ferdinand G. Wiechmann. H. E. Haberkorn and Paul Heise's "Handy Lists of Technical Literature" were continued in Parts

II and III, covering "Electricity and Magnetism" and "Engineering and Mechanics"; and the first annual issue was made of "Bibliotheca Polytechnica," edited by Fritz von Szezepanski.

Fine Arts.—This department is deficient in an unusual degree, works on art and illustrated books being few and not of a high order. "Curiosities of the American Stage," by Lawrence Hutton, "A Brief History of the English Drama," by William E. Golden, and "Familiar Chats with the Queens of the Stage," by Alan Dalo" (A. J. Cohen), belong to histrionic art; while from Derishe L. Hoyt we have "A Handbook of Historic Schools of Painting," and from Christine Chaplin Brush "One Summer's Lessons in Practical Perspective." "The Development and Character of Gothic Architecture" were treated by Prof. Charles H. Moore, of Harvard, and a revised and enlarged edition was made of "Art Topics in the History of Sculpture, Painting, and Architecture," by C. S. Farrar. Twenty out of sixty parts of "Art and Artists of our Time," by Clarence Cook, were published, and Frank G. Jackson was author of "Decorative Design." "Modern Book-binding practically considered" was a lecture read before the Grolier Club of New York, by William Matthews, of which a limited edition of three hundred copies was made; while in music we had "A Hundred Years of Music in America," edited by W. S. B. Mathews; the seventh volume of "The Musical Year Book of the United States," compiled by G. H. Wilson; "The Voice, how to train it," by E. B. Warman; and "The Septonate," by Julius Klauser. "The Scratch Club," of Prof. H. A. Clarke, discussed music principally, and Mrs. Anna R. Diehl was responsible for "A Practical Delsarte Primer." "Some American Painters in Water Colors," with text by Ripley Hitchcock, stands at the head of illustrated works in color printing, of which "XXIV Bits of Vers de Société," edited by F. A. Stokes, "The Golden Flower, Chrysanthemum," compiled by F. Schnyder Mathews, "Indigenous Flowers of the Hawaiian Islands," by Mrs. F. Sinclair, Jr., were fine specimens. "Flower Folk" and "Friends from my Garden," by Anna M. Pratt, were continuations of the "Flowers from Hill and Dale Series." In photogravure we have "A Mosaic," from the Artists' Fund Society, of Philadelphia, edited by Harrison S. Morris; the "Goupil Gallery of Great War Paintings"; "Niagara," by Ernest Edwards; and "Gems of American Art." "Recent European Art" was reproduced by photo-etching; and handsome gift volumes were "Summerland," by Margaret Macdonald Pullman; "Strolls by Starlight and Sunshine," by W. Hamilton Gibson; "Saul," the poem of Robert Browning, with drawings by Frank O. Small; and "Christmas in Song, Sketch, and Story," by various authors and artists. Alfred Parsons illustrated "A Selection from the Sonnets of William Wordsworth"; George Wharton Edwards "Certain Sonnets from the Countess of Pembroke's Arcadia"; Austin Dobson's "Sun Dial," and "Thus think and smoke Tobacco," the first in a limited edition; H. Sandham, a "Night Song" of C. Reinick; W. Goodrich Beal, "Long-fellow Gems" and "Tennyson Gems"; M. M. Taylor, "English Poems" (in etchings); C. Howard Johnson, "The Princess, and other Poems"; T.

Mellvaine, "Lalla Rookh," in the vignette edition; Frederick Remington, "The Song of Hiawatha"; L. K. Harlow, "Whittier Gems," "Summer Thoughts for Yule Tide," by S. Elgar Benet, "The Winds of the Seasons" and "A Christmas Morning," both last by Frank T. Robinson; and Irene E. Jerome, "From an Old Love Letter." Mrs. Mary D. Brine's "Memories of Home" consisted of poems and pictures of life and nature, illustrated by several artists. Oscar Fay Adams edited "The Poet's Year," and Elbridge S. Brooks, "Out of Doors with Tennyson," the last with an introduction, also. Novels issued in holiday illustrated editions were: "Our Old Home," of Nathaniel Hawthorne; "Romola," of George Eliot; and "Jane Eyre," of Charlotte Brontë; while single poems were "Sheridan's Ride," of Thomas Buchanan Read, by several artists; and "The Story of a Dory told in Verse," by Edward Everett Hale, and "Salted down picturesquely," by F. Schnyder Mathews. The third volume of the magnificent "Cyclopedia of Music and Musicians," edited by J. D. Champlin, Jr., and W. Apthorp, completed that work.

Voyages and Travels.—The leading book in this department, and, indeed, the book that created the widest sensation of the year, was, of course, "In Darkest Africa," by Henry M. Stanley, in two volumes, the composition of which in fifty days is said to have been as great a feat in writing as the crossing of Africa was in exploration. The work itself does not fall in dignity below the natural grandeur it describes. The adventures of the author have led to other works on the Dark Continent, among which are J. A. M. Jephson's "Emin Pasha and The Rebellion at the Equator" (also published in England), the narrative of the lieutenant whom Mr. Stanley sent in search of Emin, while he returned to rescue the rear column. "Scouting for Stanley in East Africa," by Thomas Stevens, the first correspondent who met the hero on his homeward march; "The Ogowe Band," a narrative of African travel, by Joseph H. Reuding; "Great African Travelers from Mungo Park (1795) to the Rescuing of Emin Pasha by Henry M. Stanley, 1889," by Hugh Craig; and "Adventures in the Great Forest of Equatorial Africa," an abridged edition of the travels and explorations of Paul Du Chailu, in a volume of five hundred pages, fully illustrated. "The Knockabout Club in North Africa" were chronicled by F. A. Ober; and from E. L. Wilson we have "In Scripture Lands," the new views of sacred places being also illustrated by him. "From Joppa to Mount Hermon" is the title of a series of lectures by Rev. Robert A. Edwards to a Philadelphia congregation, and Rev. T. B. Sheridan also described "A Priest's Tour in the Holy Land." "Social and Religious Life in the Orient," was from the pen of K. H. Basmajian, and Mrs. A. W. Wilson sent "Letters from the Orient to her Daughters at Home." "Persia: Eastern Mission" was a narrative of the founding and fortunes of that (Presbyterian) Persian mission, by Rev. James Bassett, author of "Persia: Land of the Imams" and a missionary in Persia for many years. "A Japanese Boy," by Shikukichi Shigemori, while relating the story of the author's life, gives a revelation of social life in southern Japan, and

"Seven Years in Ceylon," by Mary and Margaret W. Leitch, is the first title of "Stories of Mission Life." "Java, the Pearl of the East," by S. J. Higginson, was written for the "Riverside Library for Young People." Sullivan H. McClester went "Round the Globe in Old and New Paths," and from Louise B. Robinson we have "A Bundle of Letters from over the Sea," bright and breezy, descriptive of the usual tours of Europe. Mary Elizabeth Blake described also "A Summer Holiday in Europe," in an attractive fashion, while Mrs. Clarkson N. Potter in "To Europe on a Stretcher," told what even a helpless invalid may enjoy. T. V. O'Brien spent "Sixty Days in Europe," and from Alfred E. Lee we have "European Days and Ways." Francis C. Sessions went "On the Wing through Europe," and a second volume from his facile pen is "From the Land of the Midnight Sun to the Volga"; he also spent some time "In Western Levant." The irrepressible "Three Vassar Girls," of Mrs. Elizabeth W. Champney turned up this year "in Switzerland," their adventures being illustrated by Champ and others, and Hetta M. Hervey caught "Glimpses of Norseland." "The Tsar and his People; or Social Life in Russia," was a series of brilliant articles by master hands (the American representatives being Theodore Child and Clarence Cook), combined into a handsomely illustrated volume. "From the Thames to the Trosachs" was a record of impressions of travel in England and Scotland by Mrs. E. H. Thompson, with an introduction by Rev. Jesse L. Hurlbut; and T. W. Knox chronicled "The Boy Travelers in Great Britain and Ireland." "The Cruise of the United States Steamer Rush in Behring Sea: Summer of 1889," by Mrs. Isabel S. Shepard, wife of the commander, is a graphic story with which properly belongs "A Woman's Trip to Alaska," by Mrs. Septima M. Collis, while "By Canoe and Dog Train among the Salteaux Indians" is a most readable and instructive account by Egerton Ryerson Young of his adventures as a missionary in the northwestern portion of Canada, fairly within the Arctic circle. A. R. Carstensen spent "Two Summers in Greenland." "The Land we live in, or America illustrated" was edited by E. T. Bromfield, D. D. From H. T. Finck we have "The Pacific Coast Scenic Tour," and from Francis C. Sessions, again, "From Yellowstone Park to Alaska." Hezekiah Butterworth chronicled "Zigzag Journeys in the Great Northwest," and Susie C. Clark, "The Round Trip from the Hub to the Golden Gate." Winslow Anderson, M. D., described "Mineral Springs and Health Resorts of California," and Frederick H. Chapin "Mountaineering in Colorado." "Far West Sketches," by Mrs. Jessie Benton Frémont, ten in number, are equal to anything we have had from that lady's pen on the old West. Part I of "A Handbook of Florida," by Charles Leydard Norton, is devoted to the Atlantic coast, and Henry M. Field recorded a visit to the same State in "Bright Skies and Dark Shadows," in which the negro problem is discussed at length. Hamilton Wright Mabie described and illustrated "Our New England," while "The Pine-tree Coast," of Maine, served as theme for Samuel Adams Drake, author of "Nooks and Corners of the New England Coast." "The White

Mountains: A Guide to their Interpretation," by Julius H. Ward, appeals to our intellectual and sensitive life. "Lake Champlain and its Shores" were described by W. H. H. Murray. One of the most charming books of the year is "Two Years in the French West Indies," by Lafcadio Hearn, dreamy and poetic, the greater part of which is entirely new, although portions have appeared before in magazines, while "A Winter Holiday in Summer Lands," by Julia Newell Jackson, was spent in Cuba and Mexico. The latter country was again described by Maturin M. Ballou in "Aztec Land," and two delightful volumes by Frank Vincent were "Around and about South America" and "In and out of Central America." "The Republic of Costa Rica," by Joaquin Bernardo Calvo, was translated from the Spanish. Capt. Joshua Slocum described "The Voyage of the *Liberdade*," a vessel now in the Smithsonian, from the coast of Brazil, in 1887-'88. "Great Cities of the World," were edited by Elbridge S. Brooks, and "Glimpses of Old English Homes" were described by Elizabeth Balch, an American writer, though her volume was published in England. "Historic Homes in Washington," was from the pen of Mary S. Lockwood, and "Some City and Suburban Homes" (of San Francisco, Cal.), from that of Samuel Newsum. "The Hundredth Town," by Harriette M. Forbes, gave glimpses of life in Westborough from 1717 to 1817, and S. M. Welch described "Home History: Recollections of Buffalo, 1830-1840." "The Story of Johnstown" was told by J. J. McLaurin, and again by David J. Beale, D. D., in "Through the Johnstown Flood." "The Tourist's Guide through the Hawaiian Islands," was compiled and edited by Henry M. Whitney, and Appletons' "General Guide to the United States and Canada," "European Guide-Book," and "Hand-books" of summer and winter resorts were also issued. A new edition was made of "Appletons' Dictionary of New York and its Vicinity" for 1890 and 1891, and an "Atlas of the Metropolitan District and Adjacent Country," was published by Julius Bien & Co.

Educational.—As regards the theory of education we have: "Hints on Child Training," by Rev. H. Clay Trumbull; "Studies in Pedagogy," by Hon. Thomas J. Morgan, United States Commissioner of Indian Affairs; "A Study in Pedagogy for People who are not Professional Teachers," by Bishop John H. Vincent; "Education and the Higher Life," by Bishop J. L. Spalding; "Education as a Factor in Civilization," by Caroline B. LeRow in "The Modern Science Essayist"; "School Supervision," by J. S. Pickard; and "Practical Hints for Teachers of Public Schools," by George Howland, in "The International Educational Series"; two other volumes of which are "Essays on Educational Reformers," by Rev. Herbert Quick, M. A., and "Higher Education of Women in Europe," by Helene Lange, translated from the German by L. R. Klemm. An anonymous "Primer of School Management" opened a series of "Pedagogical Primers," and "Helps for Ungraded Schools" was a manual compiled from various sources. "Papers on School Issues of the Day" contained discussions on "Denominational Schools," by Cardinal Gibbons, Bishop Kane,

etc., and papers by William T. Harris, United States Commissioner of Education, B. A. Hinsdale, T. J. Gray, and Charles F. Smith. "Methods of teaching Patriotism in the Public Schools" were explained by George T. Balch, and Mrs. Louisa P. Hopkins wrote on "Observation Lessons in the Primary Schools." C. Browne Goode traced "The Origin of the National Scientific and Educational Institutions of the United States," J. C. Henderson set forth "Thomas Jefferson's Views on Public Education," and "Luther on Education" was by F. V. N. Painter. "The University of King's College, Windsor, Nova Scotia, 1790-1890" was the title of a volume by H. Y. Hind, and the Educational Bureau at Washington published "The History of Education in Alabama," by Willis G. Clark; "The History of Federal and State Aid to Higher Education," by Frank W. Blackmar; and "The Teaching and History of Mathematics in the United States," by Florian Cajori, in addition to "Proceedings" of the department of superintendence of the National Educational Association at its meeting at Washington, D. C., March 6-8, 1889; and an "Illustrated Fraternal Directory" included educational institutions on the Pacific coast. "Educational Monographs" were: "Manual Training in the Public Schools," by Charles R. Richards and Henry P. O'Neil; "Manual Training in France," by A. Salicis; "The Co-Education of Mind and Hand," by Charles H. Ham; "Manual Training in the Public Schools of Philadelphia," by J. MacAlister; and "Hand-Craft," by J. Crichton Browne, M. D. "Exercises in Wood Working, with a Short Treatise on Wood" were written for manual training in schools by Ivan Sickels, M. D., and two useful little manuals were "Knife Work in the School-Room," by G. B. Kilbon, and "Color in the School Room," "The Swedish System of Educational Gymnastics" was described by Baron Nils Posse, and G. L. Mello compiled and arranged "A Manual of Swedish Drill for Teachers and Students," "How to remember History" was told by Virginia C. Shaffer, and Charles G. Leland (Hans Britnan) sent out "The Mastery of Memorizing," while "Reading for the Young" was compiled by J. F. Sargent. "The History of the Iliad," by E. Brooks, and "The Nine Worlds" (of Norse mythology), by Mary E. Litchfield, deserve mention among books for children, and "A Stem Dictionary of the English Language for Use in Elementary Schools," by J. Kennedy, and W. R. Harper's "Hebrew Vocabularies" close this list.

Sports and Pastimes.—"Shooting on Upland, Marsh, and Stream" was a series of articles by leading practical authorities, edited by William Bruce Leffingwell (Horace), illustrated by thirteen full-page plates, and three out of five parts were issued of "Sport: Shooting and Fishing," edited by A. C. Gould. From G. O. Shields (Coquina) came "The Big Game of North America" and "Camping and Camp Outfits," and "With Fly-Rod and Camera," by Edward A. Samuels, described and illustrated salmon fishing in Canada. C. Hallock wrote "The Salmon Fisher," and "The Book of the Game Laws of the United States and Canada" was published. "Yachting under American Statute," by Howard Patterson, belongs to another de-

partment of sport, and "Yacht Portraits of the Leading American Yachts" were made by N. L. Stebbins. "Who Won't" was "The Official Pocket Yacht Record and Register for 1890," compiled by James C. Summers. "A Natural Method of Physical Training" was set forth by Edwin Checkley, and J. P. Thornton wrote on "Training for Health, Strength, Speed, and Agility." "The Constitution and By-Laws of the Amateur Athletic Union of the United States" were published, and "Athletic Sports in England, America, and Australia" formed a large volume. "Lawn Tennis in our Own Country" was a small volume by H. W. Slocum, Jr., which appeared at the correct season, and Harry Palmer told "Stories of the Base-Ball Field," "The American Cricket Annual for 1890" was compiled by J. Flannery, and "The Bowler's Handbook" also appeared. "The Spaniel and its Training" was the subject of a volume by F. H. F. Mercer, and "House and Pet Dogs" had several chapters from a feminine pen. "In the Riding-School" was a handy little book by Theodore Stephenson Browne (Miss G. Hamlin), and "Cycling for Health and Pleasure," by Luther H. Porter, forms a complete guide to the use of the wheel. "The Devil's Picture Books" was a history of playing cards by Mrs. J. King Van Rensselaer, and G. W. P. in "American Whist, illustrated," made a digest of "American Whist" and "Whist Universal," published in 1880 and 1887. "Caissa's Ghost," by G. A. W. Cumming, contained 100 chess problems, and James Mortimer was responsible for the "Chess-Player's Pocket-Book." John D. Champ- lin, Jr., and Arthur E. Bostwick prepared "The Young Folks' Encyclopedia of Games and Sports," C. Townsend wrote "Amateur Theatricals," and Arthur Hope "The Amateur Photographer's Handbook."

Housekeeping.—"Delicate Feasting," by Theodore Child, treats of what may be termed the æsthetics of subjects in this department, and to the same class of book belongs "Eggs, Facts and Fancies about them," compiled by Anna Barrows, which also gives recipes for cooking them. Alessandro Filippini lays down laws as to "The Table, how to buy food, how to cook it, and how to serve it," and Christine Terhune Herriek describes "Liberal Living upon Narrow Means." Anonymous contributions were "Dinners, Ceremonious and Unceremonious" and "On the Chafing Dish: a Word for Sunday-Night Teas"; while Sarah Biddle Howell is responsible for "Nine Family Dinners," "Good Living" is a practical cookery book for town and country, by Sara Van Buren Brugiere; and other books in the same line are: "New England Breakfast Breads, Luncheon and Tea Biscuits," by Lucia Gray Swett; "The Home Guide and Cook Book," by 500 ladies; "Fruits, and how to keep them," by Hester M. Poole; and "Homemade Candies and Other Good Things, Sweet and Sour," by Anna M. Richardson. "Cookery in the Public Schools" was discussed by Sallie Joy White, and "Practical Sanitary and Economic Cooking" came opportunely for persons of moderate and small means from Mrs. Mary H. Abel; and William Paul Gerhard treated the necessary question of "The Disposal of Household Wastes." "Facts for Ladies," edited

by Mrs. Amy G. Ayer, include "Dining," by Kinsley, "Health for Women and Children," by R. A. Gunn, M. D., and Beauty and House Decoration."

Miscellaneous.—"The Canal and the Railway," by E. J. James, with "The Marine Transport of Petroleum," by George H. Little, may be placed at the opening of works of this class, followed by "A Handbook to the United States Local Marine Board Examination for Masters and Mates of Ocean-going Steamships," by Howard Patterson; and H. B. Prindle supplied "A Popular Treatise on the Electric Railway." M. N. Baker edited "The Manual of American Water-Works, and H. C. Godwin wrote "The Railroad Engineer's Field Book and Explorer's Guide." "Pavements and Roads" was compiled by E. G. Love, and J. Newman treated "Earthwork Slips and Subsidence upon Public Works." M. T. Richardson compiled, edited, and published "Practical Blacksmithing," in three volumes, and C. H. Wolgemuth supplied "The Carpenter and Builder's Ready Reckoner." "Pumps" were historically, theoretically, and practically considered by P. R. Bjorling, and C. J. W. Lock wrote on "Mining and Ore-dressing Machinery." The "Annual Statistical Report" of the American Iron and Steel Association was issued, and "Builders' Hardware" was a manual for architects, builders, and house furnishers, by Clarence H. Blackall. "The Cidermaker's Handbook" came from J. L. Strowbridge. "The Scotch-Irish in America" was the title of proceedings and addresses of the second congress of that body at Pittsburg. "Alexander," by Col. T. A. Dodge, the opening volume of a series of "Great Captains," was a history of the origin and growth of the art of war, and from James M. Ingalls came "Handbook Problems in Direct Fire." "Yale Military Lectures," of C. A. L. Totten, were selected from the series of 1890, and Part II was published of "Practical Instructions for the National Guard," by W. R. Hamilton. "The Evolution of Arms and Armor," in the "Modern Science Essayist," was by J. C. Kimball. Arthur W. Brayley wrote the "History of the Boston Fire Department," and Andrew I. Meserve "The Fireman's Handbook and Drill Manual." "The Fools of Fortune, or Gambling and Gamblers," by J. Philip Quinn, and "Professional Thieves," by Allan Pinkerton, belong together, and "The Crime of the Century, or the Assassination of Dr. Patrick Henry Cronin" was from the pen of Henry M. Hunt. Thomas Savage was the author of a "Manual of Industrial and Commercial Interchange between the United States and Spanish America," and J. L. Williams and Son compiled an "1890 Manual of Investments," in a limited edition. In business we have P. M. Payne's "Business Educator" and "Business Pointers"; "Business Law," by A. R. Weed; "Whom to trust," by P. R. Earling; "The Mercantile Speller," by Edmund Blunt, and "The Shop," by A. E. Winship. H. Swan's "Traveler's Colloquial French," and the "New Coast Pilot for the Lakes" served their respective purposes; "Society as I have found it," by Ward McAllister, called forth comment and satire, specimens of which are "Society as I have foundered it," by Cad McBallister (T. C. De Leon), and "Society as it found me out," by Stewart McGuzzler. "The Society and the 'Fad,'" by Appleton Morgan,

was an amplification of an address delivered before the Shakespeare Club of New York city, explaining its origin and aim. Books of etiquette are "Bad Breaks in Good Form," compiled and edited by "One of the 400"; "Family Manners" and "Talks about a Fine Art," by Elizabeth Glover; "Every-day Etiquette," by Louise F. Bryson, and "Manners Good and Bad at Home and in Society," by Rev. A. W. Eaton, who published also "Letter Writing, its Ethics and Etiquette, with Remarks on the proper use of Monograms, Crests, and Seals." Humorous works include "Tin-types taken in the Streets of New York," by Lemuel E. Quigg, illustrated by Harry Beard; "Funny Stories," by P. T. Barnum; "Health Guved," by Frank P. W. Bellew (Chip); and "Looking Forward" (to the World's Fair of 1892), by Baron De Grimm, E. Zimmermann, and others. "Our Flag, or the Evolution of the Stars and Stripes" was a mystical interpretation by Robert A. Campbell, and "A Look Upward," by Susie C. Clark, explained the doctrine of "Spiritual Science." "Clothed with the Sun" was the book of the illuminations of Anna (Bonus) Kingsford, edited by E. Maitland; Senex traced "The Evolution of Myth as exemplified in General Grant's History of the Plot of President Polk and Secretary Marcy to sacrifice Two American Armies in the Mexican War of 1846-48." "Curious Questions in History, Literature, Art, and Social Life," in two volumes, by Sarah H. Killikelly, was designed as a manual of general information, and other works of the same order are: "Gleanings for the Curious from the Harvest-Fields of Literature," a *mélange* of excerpts collated by C. C. Bombaugh, M. D.; "Thought and Thrift," by Joshua Hill; and "Facts worth knowing," selected mainly from the "Scientific American," and edited by T. O'Connor Sloane. "The History of Ship-building on North River, Plymouth Co., Mass.," was written by L. Vernon Briggs, and Seeger and Guernsey's "Cyclopædia of the Manufactures and Products of the United States" contained valuable information. Vol. II was published of "Amateur Work Illustrated," a practical magazine of constructive and decorative art and manual labor, and Eliza B. Burnz proffered "Short-hand for Everybody," professing to have improved Pitman's phonography and reduced the art to rule and reason. The United States Treasury Department published its annual "Report" on foreign commerce, navigation, immigration, and tonnage of the United States in 1889, and the Interstate Commerce Commission issued, in addition to its own "Third Annual Report," the "Second Annual Report of the Statistics of Railways in the United States." "The Annual Statistician and Economist" was issued by L. P. McCarty, and other useful books of reference were: "Poor's Manual of the Railroads of the United States for 1890," by H. V. Poor, making the twenty-third year of the work; "Lord and Thomas's Pocket Directory for 1890" of newspapers, magazines, and periodicals in the United States and Canada; and the "United States (Official) Hotel Directory and Railroad Indicator." The "Annual American Catalogue" of the "Publishers' Weekly" was published, and also Vol. XIV of "Appletons' Annual Cyclopædia" for the year 1889, new series.

The following is the record of book production in the United States during 1890, from the figures of the "Publishers' Weekly":

CLASS OF WORKS.	1890.	ANALYSIS OF MANUFACTURE AND IMPORTATION IN 1890.			
		No. of new books made in the U. S.	No. of new ed's made in the U. S.	No. of new books imported.	No. of new ed's imported.
Fiction.....	1,118	935	105	57	21
Theology and religion.....	467	304	46	109	5
Law.....	458	425	26	10	8
Juvenile.....	408	209	15	184	..
Education and language.....	309	210	18	131	10
Biography, memoirs.....	215	118	11	79	12
Literary history and miscellany.....	188	104	19	50	10
Political and social science.....	183	151	4	26	2
Poetry and the drama.....	163	118	8	42	..
Description, travel.....	162	86	22	49	5
History.....	153	95	20	36	2
Fine art and illustrated books.....	135	85	8	42	..
Useful arts.....	133	75	12	31	12
Medical science, hygiene.....	117	80	21	14	2
Physical and mathematical science.....	98	52	6	34	1
Sports and amusements.....	82	46	7	24	5
Humor and satire.....	42	35	..	7	..
Domestic and rural.....	29	20	..	7	9
Mental and moral philosophy.....	11	4	2	4	1
Total.....	4,559	3,150	358	983	98

LITERATURE, BRITISH, IN 1890. A falling-off in book-production was shown in Great Britain during the year, which is attributed to the fact that newspapers, reviews, and magazines minister more largely than ever to the wants of the people. The decrease in the number of new books and new editions was about the same as that shown in 1889 over 1888, 5,735 books being recorded in 1890 against 6,067 in the preceding year. Of these, 4,414 were new books, and 1,321 new editions. The increase in special departments was found mostly in juvenile books, medicine and surgery, *belles-lettres*, and miscellaneous works, and in a slight degree in educational also, while the most marked decrease was in arts, sciences, and illustrated books, which were but half the number of those produced in 1889.

Fine Arts.—"The Signification and Principles of Art" were set forth by C. H. Waterhouse in a critical essay for general readers, and the "Elementary Principles of Ornament" by J. Ward, in lectures at the Maclefield School of Art. The "Year's Art for 1890" was compiled by Marcus B. Huish, who edited also the "Art Journal," and "Art Annals" included the life and work of seven prominent native and foreign artists. "The Magazine of Art" contained contributions from William Michael Rossetti, F. G. Stephens, Cosmo Monkhouse, and others, and from David Croal Thomson came "The Barbizon School of Painters," with 130 illustrations. "Players and Playwrights I have known" was the record of the English stage from 1840 to 1880, by John Coleman, in two volumes. Mrs. Kendal's "Dramatic Opinions" were given in a lively and entertaining manner, and J. A. Wheatley made "Dramatic Studies: Six Plays," "Stage Land," by Jerome K. Jerome, and "Music-Hall

Land," by Percy Fitzgerald, relate to the same art, and in this class may be placed "The Passion Play as it is played To-day, at Ober-Ammergau, in 1890," by William T. Stead, giving the German and English text, in parallel columns, and illustrated from original photographs. "Genoa: her History as written in her Buildings," was the subject of five lectures by E. A. Le Mesurier, and Henry Ernest Milner was an authority on "The Art and Practice of Landscape Gardening," and "Hand-made Laces" were studies from the South Kensington Museum, edited by Alan S. Cole. Horatio F. Brown made a historical study of "The Venetian Printing Press," and Rev. H. W. Macklin of "Monumental Brasses." Mrs. Edmond R. Wodehouse prepared an "Index to Grove's Dictionary of Music and Musicians" of 179 pages, in three columns. "The Gentle Art of making Enemies," by J. McNeil Whistler, deals essentially with art topics, while sumptuous volumes were "Relics of the Royal House of Stuart," in a limited edition of 500 copies, from drawings by William Gibb, and "Royal Edinburgh," by Mrs. Oliphant, with illustrations by George Reid, R. S. A. "Greek Pictures" and "London Pictures" were drawn with pen and pencil respectively by J. P. Mahaffy, D. D., and Rev. Richard Lovett, while "Charing Cross to St. Paul's," by Justin McCarthy, had plates and vignettes from drawings by Joseph Pennell. Other fine works were: "On Service at Home and Abroad," by Major J. Percy Groves, illustrations of soldier life by artists famous for military pictures; "In Tennyson Land," by John Cuming Walters; and "London Street Arabs," by Miss Dorothy Tennant, now Mrs. Henry M. Stanley. The "Finger New Testament," printed on Oxford India paper, was at once a curiosity and a work of art.

History.—Vols. VII and VIII of "A History of England in the Eighteenth Century," by William Edward Hartpole Lecky, completed that voluminous and valuable work, dealing principally with the relations of England to Ireland. "Ireland under the Tudors," by Richard Bagwell, also comes to an end in Vol. III. Part II of J. M. D. Meiklejohn's "New History of England and Great Britain" covered the period from 1509 to 1890, while Part I of "A Class-Book of English History," by H. H. Curtis, took in that between 55 B. C. and 1485 A. D. "The Industrial History of England" was written by H. de B. Gibbins, and "The Guild Merchant," by Charles Gross, in two volumes, was a contribution to British municipal history. Justin McCarthy's "History of the Four Georges" received a second volume, covering the period from Walpole to Pitt (1733 to 1760), while Justin H. McCarthy published two on "The French Revolution." Vol. I appeared of "A Student's History of England from the Earliest Times to 1885," by Samuel Rawson Gardiner, and from the same authority we have "The Constitutional Documents of the Puritan Revolution, 1628-1660." The seventh series of "Cameos from English History," by Charlotte M. Yonge, included the rebellion and restoration, 1642-1678, and "Scottish History from Contemporary Writers," edited by G. Gregory Smith, covered "The Days of James IV." "Ireland under Elizabeth and James the First," as described by the contem-

poraries, Edmund Spenser, Sir John Davies, and Fynes Moryson, was edited by Henry Morley. "Striking Events in Irish History" were chronicled by C. F. Dowsett, and "The Stuart Dynasty" by P. M. Thornton. "Court Life under the Plantagenets," by Hubert Hall, and "Social England under the Regency" (1811-19), by John Ashton, present especial periods, and from Capt. D. Bingham came "The Marriages of the Bourbons," in two volumes. "Feudalism" was the theme of lectures delivered at Gresham College by J. T. Ably, and "Outlines of the World's History," in four parts, were given by E. Sanderson. Lewis Jackson wrote "Ten Centuries of European Progress"; J. E. Symes, "The Prelude to Modern History"; W. Beale, "The Light of Other Days, seen through the Wrong End of an Opera Glass," in two volumes; and Emil Reich published in a volume four lectures before Oxford University on "The History of Civilization." A second revised edition was published of James Bryce's "American Commonwealth," and in colonial history we have: "A History of New South Wales from the Records," Vol. I, by G. B. Barton; "Nation-Making, a Story of New Zealand Savagism and Civilization," by J. C. Firth; "New Zealand," in "Colonial Church Histories," by Very Rev. Henry Jacobs; and a "History of the Dominion of Canada," by Rev. William P. Gresswell. Vol. III of a "History of Canada," by William Kingsford, was also published. J. Talboys Wheeler wrote an "Indian History" in the "History Primers," and in the "Events of our Own Time" appeared "The Indian Mutiny of 1857," by Col. G. B. Malleon, and "The War in the Crimea," by Gen. Sir Edward Hamley. "English Intercourse with Siam in the Seventeenth Century" was described by John Anderson, M. D., and "The Presidential Armies of India" by the late Col. S. Rivett-Carnac. In the "Story of the Nations Series," "The Story of the Barbary Corsairs" was told by Stanley Lane-Poole and Lieut. J. D. Jerrold Kelley, U. S. N.; "The Story of Russia," by W. R. Morfill; "Switzerland," by Lina Hug and Richard Stead; "Scotland from the Earliest Times to the Present Century," by John Mackintosh, being the twenty-fifth of the series; and "The Jews under Roman Rule," by W. D. Morrison. "The Greek World under Roman Sway" was an important volume by J. P. Mahaffy, D. D., and Guy Le Strange described "Palestine under the Moslems." To Church history belong: "The Monumental History of the Early British Church," by L. Ronilly Allen; "Peter's Rock in Mohammed's Flood," by Thomas W. Allies; and "The English Reformation of the Sixteenth Century," by W. H. Beckett; while "England's Battles by Sea and Land" filled two anonymous volumes, and "Scenes through the Battle Smoke" were given by Rev. A. Male, army chaplain at Lucknow. "Paper and Parchment" was the title of historical sketches by Alexander C. Ewald, and "Blunders and Forgeries" of historical essays by Rev. T. E. Bridgett, while a second series was also published of "Historic Oddities and Strange Events," by S. Baring-Gould.

Essays.—Essays proper, for general literary miscellany falls under this head also, include: "Views and Reviews: Essays in Appreciation: Literature," by W. E. Henley; "Essays Specu-

lative and Suggestive," by J. A. Symonds, in two volumes; "Essays on Subjects of Moral and Social Interest," by John Stuart Blackie, with which belongs of right "Joins in our Social Armor," by James Runciman; "Induction and Deduction, and other Essays," scientific in tone, by Constance C. W. Naden, a woman of remarkable mental endowments, posthumously edited by R. Lewins, M. D.; "Idle Musings," by E. Conder Gray, essays in social mosaic; two volumes of "Essays and Reviews," by James Martineau, selected and revised by himself; "The New Spirit," essays biographical and critical, by Havelock Ellis; and "The Literary Antecedents of the French Revolution," the Chancellor's essay for 1890, by H. Ward. "English Writers," of Henry Morley, reached Vol. VI, Vol. V being in two parts and covering the fourteenth century; and "Landmarks of Homeric Study" came from the pen of Hon. William E. Gladstone. "The Poets and Peoples of Foreign Lands" were the theme of J. W. Crombie, and "The Makers of Modern English" were handled by W. J. Dawson; while from Andrew Lang we had a lecture upon "How to fail in Literature" and "Old Friends," delightful essays in epistolary parody. "The Art of Authorship" was compiled by George Bainton, mainly from answers to direct questions put to well-known writers. J. A. Steuart embodied his criticisms in "Letters to Living Authors," and from Walter Pater we had "Appreciations, with an Essay on Style." Essays in press history and work, present and past, were entitled by Alfred Baker "The Newspaper World," and from John Pendleton, in the "Book-Lover's Library," came "Newspaper Reporting in Olden Time and To-day." "Notes from the News" by James Payn, and "London Letters," by George W. Smalley, in two volumes, are essentially modern in tone, while "The English Novel in the Time of Shakespeare" was treated by J. J. Jusserand, and translated from the French by Elizabeth Lee. "English Miracle Plays, Moralities, and Interludes" were edited by Alfred W. Pollard as specimens of pre-Elizabethan drama, and A. C. Swinburne discovered "Sacred and Shakespearian Affinities." "Short Studies of Shakespeare's Plots," out of the beaten path of such, were made by Cyril Ransome. Vol. VIII completed the Henry Irving edition of Shakespeare, and "Hermes Stella," by W. F. C. Wigston, consisted of notes on the Bacon cipher. From Edward T. Cook we have "Studies in Ruskin," "George Meredith: Some Characteristics," was by Richard Le Gallienne, and for it John Lane made a bibliography of the writings of the same author. "Robert Browning's Message to his Time" was from the pen of Edward Berdoe, and Joseph Forster designated "Four Great Teachers: Ruskin, Carlyle, Emerson, Browning." "Flowers from a Persian Garden" were culled by W. A. Clouston and accompanied with other papers. "Old Country Life" was described alluringly by S. Baring-Gould, and "Idylls of the Field" by Francis A. Knight. "In Scottish Fields," by Hugh Haliburton, and "Blossom Land and Fallen Leaves," by Clement Scott, are the best of numerous publications descriptive of nature. Constance E. Howell took "A Peep into Cat-Land." Humorous works include: "The Trials of a Country Par-

son," by A. Jessopp; "The Idle Thoughts of an Idle Fellow" and "Told after Supper," by Jerome K. Jerome; "My Lady Nicotine," essays on smoking and other subjects, by J. M. Barrie; and "Studies in Jocular Literature," by W. Carew Hazlitt. "Ink-Marks on Various Things" was a quaint little book by John Jones, full of dry humor. "The Children of the Mist," by Lord Archibald Campbell, describes the Scottish clansmen in peace and war, while from Lady Wilde (*Speranza*) we have "Ancient Cures, Charms, and Usages of Ireland." "Folk-Lore of East Yorkshire" was collected by J. Nicholson, and Rev. D. MacInnes had two volumes of a like nature, "Folk and Hero Tales of Argyllshire" and "Waifs and Strays of Celtic Tradition." Andrew Lang edited "The Red Fairy Book," a companion to the blue one of last year. Talfourd Ely prepared a "Manual of Archæology," and Walter F. Rogers a "Manual of Bibliography." James Stark touched on "Life's Phases," in line with which are also "Insignia Vitæ," by C. H. Waterhouse, and "The Gain of Life and other Essays," by William C. Coupland. "Opposites" were "A Series of Essays on the Unpopular Side of Popular Questions," by Lewis Thornton, and Rev. Harry Jones lectured on "Courtship and Marriage." W. J. Gordon told "How London lives," while "How the Poor live" and "Horrible London" came from George R. Sims.

Biography.—Works of this class appeared mostly in the several series that have multiplied greatly of late years. While many are excellent of their kind, we miss the distinctive characteristics of English biographies and autobiographies. Vol. II of "What I remember," by T. A. Trollope, proved not so good as the first. The "Life, Letters, and Diaries of Sir Stafford Northcote, First Earl of Ildesleigh," were edited by Andrew Lang, in two volumes, and to T. Wemyss Reid we owe the "Life, Letters, and Friendships of Richard Monckton Milnes, Lord Houghton." "The Life of Thomas Sidney Cooper, R. A.," was rich in reminiscences, and the "Journal of Sir Walter Scott" was published from the original manuscript at Abbotsford. "The Diary and Letters of Madame d'Arblay (Fanny Burney)" filled three volumes, edited with notes by W. C. Ward, and the "Early Diary of Frances Burney, 1768-1778" was also edited by Annie Raine Ellis. The "Correspondence between the Right Hon. William Pitt and Charles, Duke of Rutland, Lord Lieutenant of Ireland, 1781-1787" had an introductory note by the present Duke of Rutland. "Thomas Davis: the Memoirs of an Irish Patriot, 1840-1846" was written by Sir Charles Gavan Duffy. Speeches of the Marquis Dufferin, delivered in London from 1884 to 1888, were published, as were Sir E. Clarke's "Public Speeches, 1880-1890," and Augustus Jessopp edited, in three volumes, "Lives of Right Hon. Francis North, Baron Guildford, Hon. Sir Dudley North, and the Hon. and Rev. Dr. John North," by the Hon. Roger North, with an autobiography of the author. The "Correspondence on the French Revolution, 1789-1817" of William August Miles, was edited in two volumes by Rev. C. P. Miles, and "Political and Social Letters of a Lady of the Eighteenth Century, 1721-1771," edited by Emily F. D. Osborn,

were those of Sarah Byng, sister of the admiral, and present a good picture of society of the time. The "Diaries" of Sir Moses and Lady Montefiore were edited by Dr. L. Loewe, in two volumes, and in literary biography we have "Robert Browning: Personalia," by Edmund Gosse, and also "The Life of Philip Henry Gosse," his father. "Gray and his Friends" consisted of letters and lyrics, in great part hitherto unpublished, edited by Duncan C. Tovey. "Mayne Reid, a Memoir of his Life," was written by his widow, and "Thomas De Quincey: his Life and Writings," by Alexander H. Japp, enlarged from the first edition, published thirteen years ago, is to a great extent a new book. The work is of special importance in view of the two new editions of the works of that famous author, "The Collected Writings of Thomas De Quincey," edited by David Masson, and "The Uncollected Writings of Thomas De Quincey," edited by James Hogg. "Memorials of the Life of Rev. George Elwes Corrie" were edited by Miss Holroyd, and "The Life and Letters of the Rev. Adam Sedgwick," Professor of Geology in Cambridge University, were given to the world in two volumes, by John W. Clark and T. McK. Hughes. "George Buchanan, Humanist and Reformer," was a biography by P. Hume Brown. "Epistolæ Ho-Eliaŋæ," the familiar letters of James Howell, were edited by W. H. Bennett. "Dante and his Early Biographers" were treated by Edward Moore, D. D., and "The Modern Novelists of Russia" were the theme of six lectures by Charles Edward Turner. "Oliver Cromwell, the Protector" was an appreciation based on contemporary evidence, by Reginald F. D. Palgrave, and two volumes contained "Shakespeare's True Life," by James Walter, though it is impossible to conceive whence he derived the material. In the "English Men of Letters" we have "Sir Philip Sidney," by J. A. Symonds, and "Keats," by Sidney Colvin. In the "Great Writers," "Milton," by Dr. Richard Garnett; "Arthur Schopenhauer," by William Wallace; "Robert Browning," by William Sharp, rather a criticism than a life; "Jane Austen," by Goldwin Smith; "Balzac," by Frederick Wedmore; and "George Eliot," by Oscar Browning. Lucy M. Rossetti contributed "Mrs. Shelley" to the "Eminent Women Series," and "Four Frenchwomen," by Austin Dobson, opened the "Giunta Series," being Charlotte Corday, Madame Roland, Madame Genlis, and the Princess de Lamballe. In the "Illustrated Biographies of Great Artists Series" were "The Painters of Barbizon," in two volumes, by J. W. Mollett, and "William Mulready," by F. G. Stephens, while "From Handel to Hallé" was a series of biographical sketches by L. Engel, which may be mentioned with "Famous Musical Composers," by Lydia T. Morris, and "My Musical Experiences," by Bettina Walker. In the "Great Musicians Series" were "Cherubini," by F. J. Crowest, and "Beethoven," by H. A. Rudall, while in the "Eminent Actors Series" we have "William Charles Macready," by William Archer. "Locke," in the "Philosophical Classics," was by Alexander Campbell Fraser. "Great Statesmen" were: "Léon Gambetta," by Frank T. Marzials; "The Earl of Derby," by T. B. Kebbel; and "Charles James Fox," by Henry O. Wakeman; and "William Pitt"

was a biography by Edward Walford. In the "Rulers of India," "Akbar" and "Dupleix" were by Col. G. B. Malleson; "Dalhousie," by Sir W. W. Hunter; and "Warren Hastings," by Capt. L. J. Trotter; while "Mungo Park and the Niger," by Joseph Thomson, appeared in the "World's Great Explorers." "English Men of Action" received the additions of "Captain Cook," by Walter Besant; "Sir Charles Napier," by Col. Sir William F. Butler; "Lord Clive," by Sir Charles Wilson; and "Peterborough," by William Stebbing; while "Heroes of the Nations" in 1890 were "Gustavus Adolphus and the Struggle of Protestantism," by C. R. L. Fletcher, and "Horatio Nelson and the Naval Supremacy of England," by W. Clark Russell and W. H. Jaques, late of the United States navy; supplementary to which W. Clark Russell published also "Nelson's Words and Deeds," "Lord Beaconsfield," by James Anthony Froude, in the "Queen's Prime Ministers Series," somewhat disappointed eager expectation. "Lord Melbourne" was by Henry Dunckley. "Memoirs of the Military Career of John Shipp" and "The Adventures of Thomas Pelow" were added to the "Adventure Series;" and among popular biographies were: "Sir Richard Church, Commander-in-Chief of the Greeks in the War of Independence," by Stanley Lane-Poole; "Suvoroff," by Lieut.-Col. Spalding; "The Brain of an Army," by Spenser Wilkinson, a popular account of the German General Staff; "Fritz of Prussia," by Lucy Taylor; and "European Reigning Sovereigns and their Courts," by Politikos. "Cardinal Newman," by Richard H. Hutton, the first memoir of the distinguished divine, opened the "English Leaders of Religion Series," and other clerical biographies are: "Henry Martyn: his Life and Labors: Cambridge, India, Persia," by Jesse Page; "Robertson of Irvine," by Arthur Guthrie; "A. M. Mackay," the pioneer missionary to Uganda, written by his sister; and a continuation of "John G. Paton, Missionary to the New Hebrides, an Autobiography," edited by James Paton. "John Hannah" was a clerical study by J. H. Overton; T. W. Belcher wrote "Robert Brett (of Stoke Newington)"; Charles Bullock, "The Sisters Havergal," and "Memoirs of Edwin Hatch, D. D.," were edited by his brother. "The Rev. J. G. Wood, his Life and Work," as a clergyman and a writer on natural history, was written by Theodore Wood, and Frank J. Mathew published "Father Mathew," the founder of the Irish temperance movement. "A Biography of Isaac Pitman" was written by Thomas A. Reed, and "Sir George Burns, Bart.," by Edwin Hodder, belongs to another department of what may be termed practical biography. "The Loves and Marriages of Some Eminent Persons" were chronicled by T. P. Thistleton-Dyer, in two volumes, and in conclusion of this class of works may be mentioned "Henry M. Stanley: his Life, Travels and Explorations," by Rev. Henry W. Little, and "The Life of Edmund Musgrove Barttelot," commander of the rear column of the Emin Pasha Relief Expedition, from his letters and diary, by his brother, Walter George Barttelot. "How Stanley wrote 'In Darkest Africa'" was described by E. Marston.

A series of "Laurel Crowned Letters" of distinguished persons, began during the year, contained: "The Best Letters of Horace Walpole," "The Best Letters of Lord Chesterfield," and "The Best Letters of Lady Mary Wortley Montagu," and "Selections" were made from the writings of Isaac Williams, B. D.

Poetry.—Little poetry was published, and of that little can be said in commendation. From Cosmo Monkhouse came "Corn and Poppies," and "Gossamer and Snowdrifts" was the title of posthumous poems of Charles Mackay, edited with an introduction by his son, Eric Mackay. "Ingleside Musings, and Tales told in Rhyme" were by A. J. Armstrong; Frederick Tennyson, as an octogenarian, appeared again in the poetic world with "The Isles of Greece: Sappho and Alcaeus," and Richard Garnett published "Iphigenia in Delphi," with some translations from the Greek. "Toward Fields of Light" was the title of poems by Edwin Hatch, and Annie Matheson wrote "The Religion of Humanity, and other Poems," "In a Tuscan Villa," by Harriet L. Child-Pemberton, received favorable mention, and A. Sutherland had "Thirty Short Poems," "A London Plane Tree, and other Verse," by Amy Levy, was unaffected, sometimes of rare beauty and full of vitality, and in addition to "A Vision of Saints" and "Odatis," by Lewis Morris, the complete poetical works of that author were collected into a large volume. "New and Original Poems" were by Edward Allingham; "Love's Victory," by John Arthur Blaikie; "Essays in Verse," by D. G. Harris; "From Dawn to Sunset," by George Barlow; "Tintinnabula: New Poems," by Charles Newton-Robinson; "God's Touch, and other Poems," by Winifred A. Iverson; and "A Life's Requiem," by Kate Bishop. "Departmental Ditties, and other Verse" of Rudyard Kipling were collected, and "Songs of a Savoyard," by W. S. Gilbert, were illustrated by him also. Robert Bridges produced "The Christian Captives: a Tragedy in Five Acts" and "Achilles in Scyros: a Drama," both "in a mixed manner." Important collections were "Great Odes, English and American," edited by William Sharp; "Women Poets of the Victorian Era," edited by Mrs. William Sharp; "Lyrics," selected from the works of A. M. F. Robinson (Mme. J. Darmesteter); "Australian Poets, 1788-1888," edited by Douglas Sladen; "Echoes from the Oxford Magazine," reprints of seven years; "Songs of the Governing Classes and other Lyrics," by R. Brough; and "Humorous Poems of the Century," by R. H. Caine. "Poetical Works" of Thomas Lovell Beddoes were edited with a memoir by Edmund Gosse, and the "Rejected Addresses" of Horace and James Smith were also edited, with introductory notes, by Percy Fitzgerald.

Fiction.—Fewer works of fiction were published in England in 1890 than in 1889, but the average was about three new novels *per diem*, and one in a new edition for every week day. The chief sensation in this class of literature was made by Rudyard Kipling, whose short stories dealing with Anglo-Indian life were collected into a volume under the title of "Plain Tales from the Hills." He also published two novels, "The Light that failed" and "The Story of the Gadsbys." Popular writers were

represented nearly as usual—William Black, by "Prince Fortunatus" and "Stand-Fast, Craig-Royston," which was a Scotch story, as was "Kirsteen," by Mrs. Oliphant. Walter Besant published "The Demoniac" and "Armored of Lyonesse," an idyl of the Scilly Islands; W. E. Norris, "Marcia" and "The Baffled Conspirators"; H. Rider Haggard, "Beatrice" and "The World's Desire," the last written in collaboration with Andrew Lang; W. Clark Russell, "My Shipmate Louise"; George Manville Fenn, "A Fluttered Dove-Cote" and "Ely's Children"; Mrs. Kingsley Harrison (Lucas Malet), "The Wages of Sin"; and Mrs. Alexander, "A Woman's Heart" and "Blind Fate." The scene of "The Bondman," by Hall Caine, was laid in Iceland and the Isle of Man; that of "Frozen Hearts," by G. Webb Appleton, in Paris; while "The Sin of Joost Aveling," by Maarten Maartens, was written in English and by an Englishman, although at first believed to be a translation from the Dutch. "With Essex in Ireland," by Lady Emily Lawless, and "When we were Boys," by William O'Brien, were Irish stories of different periods, and "News from Nowhere," by William Morris, was a Utopian romance of 1971. "The Wonderful Adventures of Phra, the Phœnician," by Edwin Lester Arnold, and "Toxar," by J. Shields Nicholson, are marvelous and mysterious in tone, while Helen F. Hetherington and Rev. H. Darwin Burton were together responsible for "Paul Nugent—Materialist," a reply to "Robert Elsmere." Rev. A. Church and Richmond Seeley were joint authors of "The Hammer," a Jewish story, B. C., and Adeline Sergeant had two novels, "The Great Mill Street Mystery" and "A True Friend." Jessie Fothergill wrote "A March in the Ranks," while from Mrs. M. Betham-Edwards came "For One and the World" and "A Romance of the Wire." "A Rough Shaking," by George MacDonald, was a book for boys. Ouida published "Syrin" and "Ruffino"; The Duchess (Mrs. Hungerford), "Her Last Throw" and "April's Lady"; Rhoda Broughton, "Alas!"; and John Strange Winter (Mrs. H. E. V. Stannard), three military volumes, "The Other Man's Wife," "Dinna Forget," and "He went for a Soldier." Mary E. Braddon (Mrs. John Maxwell) was again heard from in "Whose was the Hand?" and "Married in Haste."

Voyages and Travels.—Africa naturally takes the first place in works of this class, "Emin Pasha and the Rebellion at the Equator," by A. J. Montnenny Jephson, and "With Stanley's Rear Column," by J. Rose Troup, supplementing the great work of Stanley himself, while "Five Years with the Congo Cannibals," by Herbert Ward and D. D. Bidwell, makes us thoroughly acquainted with the Congo country and people, in addition to telling the story of the rear guard, over which controversy has been rife. "Stanley's Emin Pasha Expedition," by A. J. Wauters, and "Stanley and Africa," by the author of the "Life of General Gordon," relate to the same theme, while "Great African Travellers from Bruce and Mungo Park to Livingstone and Stanley" was the joint work of W. H. G. Kingston and C. R. Low. R. P. Ashe described "Life in Uganda." P. Gilmore went "Through Gaza Land and the Scene of the Portuguese Ag-

gression," and "Travel Sketches in Our New Protectorate," by Henry Drummond, consisted of selections from his "Tropical Africa." Pearce Morrison made "A Visit to the Transvaal, Barberton, the Johannesburg, and Back"; Sir F. Young, "A Winter Tour in South Africa"; and Annie Martin described "Home Life on an Ostrich Farm." "Madagascar," or Robert Drury's journal during fifteen years' captivity on that island, first published in 1760, was edited by Capt. Pasfield Oliver, and "Life in Africa" was from the pen of Rev. James Macdonald, for twelve years a missionary in that country. Other missionary records are "Ten Years' Church Work in Natal," by A. W. L. Rivett, and "The New World of Central Africa," by Mrs. H. Gratlan Guinness. "A Hunter's Wanderings in Africa," by F. C. Selous, and "Kloof and Karroo," or Sport, Legend, and Natural History in Cape Colony," by H. A. Bryden, found readers of another order of mind, while "Wild Beasts and their Ways," by Sir Samuel W. Baker, in two volumes, was the record of fifty years' sport and reminiscences of Europe, Asia, Africa, and America. "The Prisoner of Chiloane," by Willis Mackay, had as secondary title "With the Portuguese in Southeast Africa," and F. Harrison Smith wrote "Through Abyssinia: an Envoy's Ride to the King of Zion." "Russia's Railway Advance into Central Asia" was the title of notes of a journey from St. Petersburg to Samarcand made by George Dobson, and "The Cruise of H. M. S. Calliope in China, Australia, and East African Waters, 1887-1890" was described by E. A. Evans. Hon. John Abercromby took "A Trip through the Eastern Caucasus," Alexander Hosie spent "Three Years in Western China," and "Fifty Years in Ceylon," by Maj. Thomas Skinner, was edited by his daughter Annie Skinner. Other books on the East are "Kurrachee (Karachi) Past, Present, and Future," by A. F. Baillie; "Calabar and its Mission," by Hugh Goldie; "A Friend of Missions in India," by Henry S. Lunn, M. D.; "Native Life in South India," by Rev. Henry Rice; "With the Bedouins," by Gray Hill; "Oxford to Palestine," by Rev. J. L. Thomas; and "A Thousand Miles on an Elephant in the Shan States," by Holt S. Hallett. "Picturesque Australia" was edited by E. E. Morris, in four volumes; Theodore F. Bevan was the author of "Toil, Travel, and Discovery in British New Guinea"; and "A Naturalist among the Head-Hunters" by Charles M. Woodford, was an account of three visits to the Solomon Islands in the years 1886-'88. "The Journal of H. M. S. Enterprise in the Expedition in Search of Sir John Franklin's Ships by Behring Strait, 1850-'55," kept by Capt. Richard Collington, was given to the public, edited by his brother, and a new edition was made of the "Journal" of Charles Darwin during his voyage round the world in H. M. S., "Beagle." William Spotswood Green spent some time "Among the Selkirk Glaciers" of British Columbia, and W. G. Blaikie, D. D., saw "Summer Suns in the Far West." A particularly bright book of travel was "A Social Departure," by Sara Jeannette Duncan, and B. Kroupa chronicled "An Artist's Tour." W. H. Russell made "A Visit to Chill and the Nitrate Fields of Tarapaca." Augustus J. C. Hare had three books, "Southeasteru," "Northeastern," and

"Southwestern France": W. R. Lawson described "Spain of To-day"; and Oswald Crawford supplied "Round the Calendar in Portugal"; as did Rev. Henry F. Tozier "The Islands of the *Ægean*." "*Devia Cypria*," by D. G. Hogarth, contained notes of his archaeological journey in Cyprus in 1888. "Caught in the Tropics" was a sequel to "In Pursuit of a Shadow," by A. Lady Astronomer. "Footsteps of Dr. Johnson" (Scotland), edited by George Birbeck Hill, was illustrated by Lancelot Speed; William Knight went "Through the Wordsworth Country"; and Rev. A. J. Church described "The Lanreath's Country." To W. J. Loftie we owe "London City," its history, streets, traffic, buildings, and people, illustrated by W. Luker, Jr., from original drawings.

Physical, Moral, and Intellectual Science.

—In physical science we have: "The Philosophical Basis of Evolution," by James Croll; "Modern Ideas of Evolution as related to Revelation and Science," by Sir J. W. Dawson; "Studies in Evolution and Biology," by Alice Bodington; "Force as an Entity, with Stream, Pool, and Wave Forms," by Lieut.-Col. W. Sedgwick, R. E.; "The Advancement of Science," occasional essays and addresses of E. Ray Lankester; "Through Magic Glasses," a sequel to "The Fairyland of Science," by Arabella B. Buckley (Mrs. Fisher); "The Autobiography of the Earth," by Rev. H. N. Hutchinson; a "Class-Book of Geology," by Archibald Geikie; Vols. II and III of a "Handbook of Descriptive and Practical Astronomy," by George F. Chambers; "The Science of Metrology," by Hon. E. Noel; "Annals of Bird Life," by Charles Dixon, an "Introduction to Fresh-Water Algae, with an Enumeration of all the British Species," by M. C. Cooke; "Animal Life and Intelligence," by C. Lloyd Morgan; "Curious Creatures in Zoology," by J. Ashton; and in the International Scientific Series, "The Colors of Animals," by E. B. Poulton, and "The Physiology of Bodily Exercise," by Fernand Legrange. A most excellent and necessary little volume was "The Town Dweller: his Needs and his Wants," by J. Milner Fothergill, M. D.; while additions to the "Contemporary Science Series" were: "The Origin of the Aryans," by Isaac Taylor; "Sanity and Insanity," by C. Mercier, M. D.; "Evolution and Disease," by J. Bland Sutton; "The Criminal," by Havelock Ellis; "The Village Community," by G. L. Gomme; "Electricity in Modern Life," by G. W. De Tunzelman; "Manual Training," by C. M. Woodward; and "Physiognomy and Expression," by P. Mantegazza. Vol. IV was reached of "Annals of Botany," edited by J. B. Balfour, T. H. Vines, and W. G. Farlow, M. D., and "Oreoids, their Culture and Management" were the subject of a volume by W. Watson and W. Bean, with colored plates and numerous engravings. "The Modern Rack" was a collection of essays and speeches of Frances Power Cobbe against vivisection, while "Pasteur and Rabies," by Thomas M. Dolan, M. D., attacked the theory of that specialist. A hundredth anniversary edition of Mary Woolstonecraft's "Rights of Women," was published with an introduction by Mrs. Henry Fawcett, and the other side of the question was presented by Heber L. Hart, in "Women's Suffrage and National Danger," urging argu-

ments hitherto comparatively neglected. Among studies of social science: "In Darkest England and the Way Out," by Gen. William Booth, of the Salvation Army, created the most widespread comment and criticism, as a practical attempt to carry out Utopian theories; "Socialism, New and Old" was dwelt upon by W. Graham; "Socialism in England," by Sidney Webb; while G. Bernard Shaw edited "Fabian Essays in Socialism," by various authorities; and W. H. Dawson published "Bismarck and State Socialism," an exposition of the social and economic legislation of Germany since 1870. "Principles of Economics" were laid down by Alfred Marshall; "The Theory of Credit" was by H. D. MacLeod, in two volumes; and A. Philip wrote on "The Function of Labor in the Production of Wealth." "Clubs for Working Girls" were discussed by Maude Stanley, and "Political Prisons at Home and Abroad," by G. Sigerson, with an introductory letter by James Bryce. The most important political work was that of Sir Charles W. Dilke, "Problems of Greater Britain," a new work, and by no means a revised edition of his earlier "Greater Britain," and another volume, which aroused interest was "The Pope and the New Era," by William T. Stead. Sir Frederick Pollock published "An Introduction to the History of the Science of Politics" and "Oxford Lectures and other Discourses," J. A. Fox furnished "A Key to the Irish Question," and "Speeches on the Irish Question," by Joseph Chamberlain, between 1887 and 1890, were collected into a volume. "Things of India made Plain," by W. Martin Wood, was continued, and H. Waller supplied "Nyassaland, Great Britain's Case against Portugal." "The New Education Code for 1890-91" was by John Russell, and Cardinal Manning's essays on "National Education" during the past five years saw the light in book form. "Notes on American Schools and Training Colleges," by J. G. Fitch, are of interest. "Commentaries on the Present Laws of England," by Thomas Brett, was a valuable work, and Sir J. F. Stephen presented "A General View of the Criminal Law of England." "An Epitome of the Synthetic Philosophy of Herbert Spencer" was made by F. Howard Collins, reducing that author's five thousand pages to five hundred, with few deviations from his exact words, the accuracy of the work being vouched for by Mr. Spencer himself in an introduction. Dr. Francis Warner published a course of lectures "On the Growth and Means of Training the Mental Faculty"; William Knight, "Essays in Philosophy, Old and New"; and Prof. F. Max Müller, "Three Lectures on the Science of Language," given at the Oxford University Extension Meeting in 1889. "The Seat of Authority in Religion," by James Martineau, expounds his conception of Christianity in its double aspect of an historical movement and a spiritual force in an able and scholarly manner, while from Hon. William E. Gladstone we have "The Impregnable Rock of Holy Scripture." "Lux Mundi," edited by Charles Gore, consisted of a series of studies in the religion of the Incarnation by clergymen of the English Church, and "The Wider Hope" of essays and strictures on the doctrine and literature of future punishment, by numerous writers, lay and clerical, including Archdea-

con Farrar. "Lectures on Christianity and Socialism" were delivered by Bishop A. Barry at the Lambeth Baths. "Inspiration and the Bible" was an inquiry made by Robert F. Horton; and in Biblical criticism, "The Sermon Bible" completed the study of the Old Testament with "Isaiah to Malachi," and opened the New with "Matthew 1—xxi." Five volumes were added to "The Expositor's Bible": "Judges and Ruth," by Rev. Robert A. Watson; "The Gospel of St. Matthew," by J. Monro Gibson; "The Gospel according to St. Luke," by Rev. H. Burton; "The Book of Exodus," by Dr. G. A. Chadwick; and the "Prophecies of Jeremiah," by Rev. C. J. Ball. Vols. II and III of "The Biblical Illustrator," edited by Rev. Joseph S. Exell, completed that work. In the "Men of the Bible Series," "St. Paul: his Life and Times," by James Iverach, showed learning and research, and "The Minor Prophets" were handled by Archdeacon Farrar, who published also "Truths to live by," a companion to his "Every-day Christian Life," and his "Impressions and views of 'The Passion-Play at Ober-Ammergau.'" Two volumes of sermons by Rev. John McNeil were published, entitled, "The Regent Square Pulpit," as were the Metropolitan Tabernacle pulpit sermons of Rev. C. H. Spurgeon of 1889, and that divine's "Sermons in Candles"; "The Holy of Holies," by Alexander Maclaren, contained thirty-four sermons, while two posthumous volumes of Bishop Lightfoot (of Durham) were "Leaders in the Northern Church" and "Ordination Addresses and Counsel to Clergy." A second series of sermons by Canon H. P. Liddon was also issued. The only authorized edition of the address of Henry Drummond, "The Greatest Thing in the World," was published during the year, and from the same author his admirers received "Pax Vobiscum" and "The Perfected Life." "Buddhism and Christianity," by A. Scott, being a parallel and a contrast, was the theme of the Croall Lectures for 1889-'90, and "Modern Criticism, considered in its Relation to the Fourth Gospel," of the Hampton Lectures for the last year, by Rev. Henry W. Watkins. "Voices Populi," by F. Anstey Guthrie, gave entertaining views of English every-day life; and entertaining books on sport were "Polo in India," by Capt. G. J. Younghusband; "Sporting Sketches," by "Diane Chasseresse," and "The Scientific Education of Dogs for the Gun," by H. H. "The Story of our Lighthouses and Lightships" was related in a manner at once descriptive and historical by W. H. D. Adams; and useful contributions were "The Art of Paper-Making," by Alexander Watt, and "The Principles and Progress of Printing Machinery," by John Southward. "The Structure of the Cotton Fiber" was studied by Hugh Monie, and S. Plimsoll wrote on "Cattle Ships." "The Petroleum Industry of Southern Russia" was treated by Charles Marvin. Blackie's "Modern Cyclopædia," edited by Charles Annandale, was completed by the issue during the year of four volumes, making eight in all; and Vols. V and VI were also published of Chambers's revised "Encyclopædia." The "Dictionary of National Biography," edited by Leslie Stephen and Sidney Lee, reached Vol. XXV. "The Colonial Year-Book for 1890" was a handy book of reference, the work of A. J. R. Trendell.

The following is the analysis of the publishing trade in England during 1889 and 1890, from the figures of the "Publishers' Circular":

DIVISIONS.	1889.		1890.	
	New books.	New editions.	New books.	New editions.
Theology, sermons, biblical, etc.	630	184	555	158
Educational, classical, and philological.....	557	124	561	88
Juvenile works and tales.....	418	98	443	95
Novels, tales, and other fiction.....	1,040	864	881	828
Law, jurisprudence, etc.....	66	40	40	39
Political and social economy, trade, and commerce.....	110	16	87	22
Arts, sciences, and illustrated works.....	112	84	54	19
Voyages, travels, geographical research.....	208	57	188	69
History, biography, etc.....	310	114	294	97
Poetry and the drama.....	128	54	114	74
Year-books and serials in vols.....	842	4	818	1
Medicine, surgery, etc.....	188	49	148	50
Belles-lettres, essays, monographs, etc.....	157	188	171	191
Miscellaneous, including pamphlets, not sermons.....	458	107	511	100
	4,694	1,378	4,414	1,321
		4,694		4,414
		6,067		5,785

LITERATURE, CONTINENTAL, IN 1890.

For the most part, during the year 1890 literature on the Continent held its place in national life and experience quite as securely as in former years, with, perhaps, some increase in the number of published works in various departments. We give, as usual, our condensed narrative in the alphabetical order of countries named.

Belgium.—Historical research has been prosecuted in Belgium with somewhat more than the usual vigor. Prof. M. Philippson reprinted a series of learned and judicious articles, which had appeared in the "Revue Historique" of Paris, concerning the famous Scottish Queen Mary, entitled "Études sur l'Histoire de Marie Stuart." The work is spoken of in high terms by the critics. M. K. de Lettenhove's book on the same topic takes strong ground against the Queen of Scots. M. Namèche is steadily at work in preparing and putting forth new volumes of the well-known "Bibliotheca Belgica." Pope Leo XIII, it is said, congratulated the aged writer on his successful presentation of historical questions and events from the Roman Catholic point of view. Two volumes of the "Bibliographie des Martyrologes Protestantes Néerlandais" have appeared, and contain a mass of information relating to the bloody repression of Protestants in the Netherlands under Charles V and Philip II. M. H. Pirenne, professor in the University of Ghent, furnished a monograph of high character and excellence, entitled "L'Histoire de la Constitution de la Ville de Dinant au Moyen Age." Collections of documents continue to be published, at regular intervals, edited by the Royal Historical Commission, such as, "La Correspondance du Cardinal Granvelle," Vol. III, "Relations Politiques des Pays-Bas et de l'Angleterre sous Philippe II," Vol. VIII, etc. Economic sciences also have received a large share of attention from the pens of M. Fiére-Orban, M. de Laveleye, M. H. Denis, and M. Allard. The "Congo State" is

still a matter of interest to Belgians, and a number of volumes were published respecting it during 1890. M. A. J. Wauters, in a volume devoted to "Stanley au Secours d'Emin," gave a foretaste to the great explorer's book, published subsequently. The school of "Young Belgium" is as active as ever, though only a few volumes of poetry and contributions to the drama have been brought out this year. Popular songs have received a large share of attention from the Society of Walloon Literature of Liège and M. F. Van Duyse. The chief event in Flemish literature was the appearance of a posthumous novel by Henri Conscience. In poetry, two young ladies have made their mark—one, Mlle. H. Swarth, in "Mourning Violets," the other, Mlle. Hilda Ram, in her "Poems." The drama is indifferently represented this year. We may name one historical play as well spoken of, viz., "Death of Earl Charles the Good, 1127," by M. J. Planequaert. In history there is not much which requires mention. M. F. de Potter has brought out Vol. V. of his exhaustive description of the streets and buildings of the city of Ghent. Two books of travel are praised by the critics, "In Spain," by M. Van Steenweghen, and "A Winter in the South," by Mlle. V. Loveling. M. Pol de Mont, the eminent poet, in addition to collecting in two volumes a great number of prose studies on French, Provençal, Flemish, and Dutch writers, has published a volume of the same kind concerning contemporary German writers. From this we learn something of the *félibres* in the south of France, who are striving to revive the language and literature of the Troubadours in the middle ages.

Bohemia.—Numerous works were published this year in Bohemia, the larger portion of which are regarded as valuable. Especially is this true of poetry. The national and romantic schools are still struggling together, the latter being distinguished for pessimism, for the most part. J. Sládek created a sensation by fiery and patriotic lyrics, "Rural Songs and Bohemian Sonnets." A large collection of patriotic songs comes from Irma Geissel, under the title, "Z. Podkzkonosi." The romantic school productions rather predominate this year. J. Vzehlichy, originator of the school, stands foremost in his "Days and Nights" and "Bitter Kernels." Some new writers have appeared, as Ant. Close, J. Simon, A. Klásterchy, etc. Narrative poems of superior merit have been published during the year, of which "Historic Songs," by F. Chalupa (recently deceased), are admirable specimens. J. Zeyer's stories are spoken of very favorably. Fiction has been cultivated with success during 1890. Jirásek, as noted in last year's record, is considered to be the best writer of novels and tales. His "Collected Works" are in process of publication. F. Schultz, J. Brunn, V. Vleck, J. Svatch, and some others, are named with approbation in this kind of literature. M. A. Simáček's novel "Two Brothers," and J. Hermann's short stories, "From Corners of Prague," are favorably noticed by the critics. Moravian writers also stand well in this department, such as V. Kosmák, G. Preiss, K. Světlá, J. Herben, E. Jelínck, etc. The drama has been cultivated with vigor and success. E. Bozděch's "A General without an Army" is probably the best, its plot being lively, delineation

of character and manners excellent, and its dialogue sprightly. J. Vzehlichy's historical drama "The Brothers" is very effective in style and execution, as is also "The Wooing of Pelops." In other departments of literature the record for Bohemia is almost a blank.

Denmark.—Publications during the year are about the same in number, but few, comparatively, are pronounced to be worthy of note in regard of *belles-lettres*, properly speaking. In history a young author, N. Neergaard, has begun a work on a large scale, "The Period of the Constitution of June, 1849," in which he purposes to tell of the political history of Denmark during 1848-'60. A. Thorsøe has completed his elaborate work "The Reign of Frederick VIII." S. Thrige continues his "History of Denmark in our Century," and T. Lund adds a tenth volume to his learned "History of Denmark and Norway at the Close of the Sixteenth Century." "A History of the Danish Stage," richly illustrated, comes from the pen of P. Hansen. "Life in Copenhagen in Old and Recent Times," by J. Daviden, is much praised. Several biographical writings have appeared, among which may be named here: "Thorwaldsen, his Life and Works," by S. Miller, and "The Confidential Correspondence of Frederick VI with Norway, 1809," G. Brandes has published two volumes of "Essays," characterized by his well-known skill and ability. Poetry and fiction maintain their place in public esteem. K. Gjellerup deals with the always old, and yet ever new theme, in his "The Book of my Love," and C. Richard, an aged poet, celebrates with patriotic vigor the different portions of his native land. Novelists have generally confined themselves to tales and shorter stories this year. It may suffice to mention a few here, such as S. Bauditz's "In the Twilight," Mrs. Schiørring's "Fra Tyllands Vesthyst," Maaghen's "The New," T. Mahrer's "The Seven Miracles of the World," etc. There were no publications in philosophy this year. In theology we may name one good, useful book, "The Five Books of Moses, a Guide to the Critical Reading of the Bible," by A. C. Larsen. Several books of travel have been published, among the best of which is L. Ussing's "Lower Egypt." The new periodicals spoken of in last year's record, as having bright prospects, have expired for lack of sustenance in the way of subscribers, etc.

France.—This year politics have had less than usual to do with literature, properly speaking. French poetry has assumed somewhat of a new phase. There is a marked determination to protest against pessimism. Romanticism seems to have died out. Even Victor Hugo, the idol of a certain number of French people, does not hold the same overpowering rank, amounting almost to worship. Two dramas may be named, but rather as failures than successes, viz., "Amy Robsart," in a new edition, and "Futura," by M. Vacquerie, a pupil of Hugo's; this latter is said to be a sort of sequel to Goethe's "Faust." M. Julian Tiersot's "Histoire de la Chanson Populaire en France" is highly commended by competent judges. A new volume of "Correspondance de Flaubert" has been published; it has a certain genuine interest, but is regarded largely *de trop*. M. F. Fabre has well illustrated clerical

cal life and people in his "Ma Vocation." Short and condensed biographical studies meet with favor in these days of multitudes of books, which no mere mortal can find time to read and examine. M. J. Bertrand's "D'Alembert" is a capital specimen of this series. M. E. de Voqué's "Remarks on the Centennial Exposition" in Paris are interesting, and indicate large intelligence and true patriotism. Literary essays are very numerous, from the pens of M. P. Deschanel, M. E. Bertin, M. P. Godet, M. M. Sprouch, and M. G. Sarrazin. Among novelists stand out this year Zola, Guy de Maupassant, and Paul Bourget. The "psychological" school strives continually against the "romantic," and as a competent critic affirms, there is a "deluge of analyses and of cruel stories just now." A sort of military literature has arisen in France of late years, not unlike the same in England, where army men contribute quite freely to light literature. M. Ch. Mismar's "Six Ans Soldat" is pronounced to be among the best of the year, truthful and virile in a proper sense. Zola's "La Bête Humaine" still attracts lovers of that sort of reading, where crime and vile passions form the staple of the writer. Richépin's "Le Cadet" is said to be even more disgusting and unwholesome than Zola's novels. Space does not admit of giving even the titles of novels of various sorts and characters this year. The Man in the Iron Mask and the fate of Louis XVII are historical problems which, although never likely to be settled on a secure basis, attract attention and new efforts. The "Souvenirs" of the Comte de Rochechouart contain valuable matter, and the "Letters of the Duke of Orleans," edited by his sons, the Count de Paris and Duke de Chartres, throw much light upon the times and the men of the period in which he lived. General history has been successfully treated by M. Lavisse, in the "Vue Générale de l'Histoire Politique de l'Europe." A book on the "Question d'Alsace," by an anonymous writer, is pronounced to be one of the best of its kind this year, being clear, distinct, just, and forcible in every way. The history of the French conquest in India has been well treated by M. Castonnet des Fosses, in his "Inde Française avant Duplex," and M. T. Haumont, who devotes two volumes to the subject. Geographical publications have been numerous, some of the best coming from M. V. Giraud, M. E. Dupont, and M. Béchét. Philosophy and theology have received only moderate attention in 1890. A new "Life of Jesus Christ," by Father Didon, seems to have created quite a sensation in Paris, and M. Ernest Renan has published Vol. III of his "History of the People of Israel."

Germany.—Critics make numerous and just complaints as to the tendency of the "natural" school of Zola, Tolstoi, and Dostoievski to debase and even ruin literature as it ought to be. Novels and plays are most deeply affected by this tendency, lyrical productions the least. Hermann Lingg has done good service in his study of history and exposition thereof in his lyric poems. A Meeser's "Deutsche Kaiserlieder" are very fine specimens of patriotic poetry. The poems of S. Milow and H. Seidel's "Glockenspiel" are much praised. Narrative poetry is well cared for by J. Wolff, M. Burkhardt, L. A.

Frankl, W. Jordan, and J. Grosse. The death of L. Anzengruber is noted as a heavy loss to the drama, Richard Voss's middle-class plays "Eva" and "Alexandra" occupy the foreground of this year's dramatic productions, and have been very successful on the stage. Other dramatists of the "free stage," as it is called, prefer painful subjects, such as inherited vices and physical and moral diseases, and bring forward physiological motives instead of psychological. H. Sudermann, G. Hauptmann, C. Bleibren, etc., are writers of this sort. As a contrast, may be named here W. Kirchbach's "Die letzten Menschen," a dramatic poem resembling Goethe's "Faust." In the domain of the novel Wilbrandt has carried off the prize this year. "Adam's Solne" is a veritable romance, and represents the type of humanity in varying forms, introducing representations of nearly every race and class of the nation, north as well as south German. In plot, action, dramatic fire, and the like, it is truly admirable. Critics speak of what they call "the flood of novels" of the year. S. Milow's "Lebensmächte," F. Dahn's "Skirnir," K. Frenzel's "Wahrheit," H. Heiberg's "Schuler an Schuler," Marie von Ebner-Eschenbach's "Unsunbar," and a few others, are named with approval. In national history, H. Von Sybel has done good service in his narrative of the dissolution of the old German empire and the renaissance of the new. The work is very valuable, being "drawn from authentic sources." Count Adolf Schack's "History of the Mormons in Sicily" is a first-class work, and forms an excellent companion volume to the same author's "History of the Moors in Spain." The number of biographies is unusually large this year. Among these attention may be called to M. Carrière's "Lebensbilder," which contains interesting reminiscences of his career in connection with the Munich Academy of Fine Arts; also to R. Hammerling's "Ahasuerus in Rom" and "König von Sion." Hammerling's death occurred only recently. Essays, too, are abundant, such as H. Grimm's "Fünfzehn Neue Essays," said to be clever and worth reading, and H. Bulthaupt's essays on Hebbel, Grillparzer, and O. Ludwig, which are of real, positive value. O. Mejer's essay on "Wolff-Goethe" is a new contribution to the Goethe literature, and shows the great poet in the light of an anxious father and guide, as well as in other respects. A good biography of Schiller has appeared from J. Minor, and is well received. The Bacon-Shakespeare controversy is regarded as settled by Bernhard Ten Brink, in his "History of English Literature," Vol. II. A "History of Philosophy," by Wundt, furnishes encouragement for the future as regards this department. In theological matters there is hardly anything of importance to be named here. The deaths, however, of two distinguished German theologians properly should be noted. Dr. J. J. Ignaz Döllinger, an eminent Roman Catholic ecclesiastic and author, and in later life chief among the "Old Catholic" divines of Germany, passed away, in January, at the advanced age of ninety-one (lacking one month). Dr. Franz Delitzsch, who was among the foremost of the conservative orthodox German theologians, as well as a voluminous author, died in March, 1890, at the ripe age of seventy-seven.

Greece.—As was the case last year so is it this. The great majority of books has been far above average merit. Chief among these are the "Historical Essays" of Prof. Constantine Paparrigopoulos, containing eleven monographs reproduced, "The Capture of Constantinople by the Turks in 1453," by A. Paspatis, deserves especial mention and commendation for its thoroughness and the additional light which it throws upon that unhappy event, from which Europe and the civilized world has suffered ever since. The "History of Cyprus" is very full and well done. G. Mauroiannis has supplied a real want in his excellent "History of the Ionian Islands, from 1755 to 1815." The subject of "European Diplomacy in Greece since the Days of Capo D'Istria" is fairly dealt with by C. Meletopoulos. Madam C. Parrin has begun the publication, in parts, of a "History of Woman," to make several volumes. In archaeology two books are noteworthy, viz., "Christian Athens, an Essay, Historical and Archaeological," by T. Neroritos, and "Archæology of the Monastery of Daphni," near Athens, by G. Lambakis. A bibliography of all the works on topography and geography which have appeared in modern Greek between 1800 and 1890 has been prepared and issued by the Historico-Ethnological Society of Athens. It contains some fourteen hundred entries. "Athens," illustrated, is appearing in parts, and promises well. The topography of Attica and of the Piræus forms a part of the original plan. Poetry, the drama, and fiction have come before the public largely in the weekly papers, but there is hardly anything of much value to be noted this year. D. Koronilas's comedy "The Times" is said to be good, but having rather a political tendency. A pretty poem comes from a Zantiote, A. Martzokis, entitled "The Prior of the Monastery of Anaphonitra." The best collection of lyrics published for many years is said to be "Words of the Heart," by a young writer, Constantine Manos. Two translations of Shakespeare's "Hamlet" have been made, to be added to two previous versions. One is by J. Polyas, of Corfu, excellently done; the other, by C. Damiralis, of less merit. In theology and philosophy almost nothing has been done so far as publication is concerned.

Holland.—Two years ago note was made of Vol. I of Dr. Pierson's fine work, "Geestelyke Voorouders," which gives an account of the sources of civilization and intellectual life. In Vol. II the learned writer sketches Greece in its epic poems and history. Homer, Pindar, Herodotus, Thucydides, and Xenophon furnish materials, which are admirably and effectively used. The book is suggestive and stimulating to students of ancient lore. Mr. Kalf's "History of the Literature of Holland in the Sixteenth Century" is pronounced to be a valuable repository for students and general readers. He has done full justice to the spirit and intelligence of the people, and delineated Dutch characteristics in a clear and agreeable way. A posthumous work of Prof. Janssen's has been published, "Historische Bladen." The lectures of which it consists are written with earnestness and feeling, and give a good survey of the History of Holland in the seventeenth and eighteenth centuries, and under the French dynasty. His papers

on Cromwell, Henry IV, Madame de Maintenon, and Marie Antoinette are well worth reading. Prof. Blok has published a good monograph on Louis of Nassau, brother of William the Silent. Mr. Nyhoff has undertaken a defense of the stout Duke of Brunswick, who was very unpopular in the days of Stadtholder William V. Prof. Fruin has given a fine description of the relation of William III to England. The correspondence between the Duke of Anjou and the Prince of Orange and the States has been published, and is pronounced by the critics to be valuable. Vol. II has been brought out of the correspondence of Christian Huygens, down to the year 1659. Ter Gouw's "Amsterdam" shows how badly that city behaved at the siege of Haarlem in 1573. Interest in India is as lively as ever, as shown by realistic novels, Indian sketches, romantic stories, etc. Leendertz's "Van Atjek's Stranden" is both instructive and pleasing. Books of travel which are worth noticing are one about South Africa, by Hendrik P. M. Muller, and another about Russia, by Westerooven van Meeteren. Something, not much, has been done for the stage. Novels and tales have been produced in abundance, but they are mostly without any special merit. Hooyer and De Veer write serials, and Jan Holland glorifies the Roman Catholic Church and its institutions in "Athanasis Mors." Lady novelists continue to compete with masculine rivals, and secure fair success; but the production of novels this year is, on the whole, disappointing. Schimmel has brought out anew the best of his old verses and added some fresh ones, under the title "Innerlyk Leven." There is nothing of moment in philosophy or theology to be put on record. There have died this year, Prof. Cobet, the great Greek scholar; Dr. Campbell, well known for his "Annals of Netherland Typography to the Fifteenth Century"; Annie Foore; and the poet Ten Kate.

Italy.—Literature has flourished in Italy this year better than in the previous year. Signor Carducci, by far the best of Italian poets, has published "Terze Odi Barbares," i. e., a third installment of odes in classical meters. They are marked by vivid imagination, fine language, and genuine inspiration, with a little stiffness and some doubtfulness occasionally as to the meaning. This remark applies with force to the "Ode to the Queen of Italy," or "The Lute and the Lyre." Signor Gabude d'Annunzio has published a volume entitled "L'Isotto: la Chimera," but the poems are not new. His verse is criticised as having much color but little substance. Other poets and verse makers hardly deserve mention here. A distinguished poetess named Vivanti has appeared, and Signor Carducci has written a preface to her poems. Some translations of merit have been made from Longfellow's writings. In the way of romance, E. de Amicis has brought out a novel entitled "Il Romanzo d'un Maestro." The critics complain that the book is too vague and uncertain in its teaching to prove of much value to readers, yet the book is well written, and will repay examination. Matilde Searo, one of the best novelists in Italy, has published a book called "Adio Amare," which is said to be highly attractive. Other writers of fiction this year are of little account. S. Farina, Valcarengi, S. B. Abini, E. de Marchi, and a

number of others are named as having succeeded fairly well. In history F. Martini has brought out Giusti's "Memorie," which dates to the Tuscan revolution of 1848. Signor Cappelletti has given to the public, in three volumes, a history of the first French revolution, painstaking, but of small merit as to style, etc. Tivaroni, who is called a radical, has worked in the same field, and Prof. Franchetti has contributed some good articles in the "Nuova Antologia." J. Ghiron (recently deceased) left a work continuing the annals of Coppi, entitled "Annali d'Italia." The book is of indifferent merit. The Historical Institute is doing good work. Four highly interesting volumes have been published in relation to Venetian chronicles, registers, etc. Pali's "Book of Montaperti" is really valuable, containing statutes, deliberations, officers, and the like, of the Florentine Guelphs in 1260. Very numerous are the contributions to special historical points and topics, but the critics point out the striking disproportion between historical research and historical composition at the present time. In lyric poetry Annie Vivanti's poems (with preface by Carducci) manifest great liveliness and genuine originality. The centenary of Beatrice Portinari, the lovely young girl immortalized by Dante, was celebrated by publishing a volume, the articles in which were written entirely by ladies. The gentler sex in Italy are also imitating those of other nationalities by becoming lecturers. The critics thus far award but faint praise to their new venture.

Norway.—General prosperity in Norway this year appears plainly to have had its effect upon literature and book publishing. Of novelists, J. Hilditch gives good hope as to the future. His book, "Under Norske Flag" ("Fortællinger og Skitser"), is noted for hearty humor of the east country folks of his native land. G. Finne is said to be the very opposite of Hilditch, a man, no doubt, of industry and energy, but no humor, or almost none. His stories, "The Philosopher" and "Dr. Wang's Children," have come before the public in the newspapers. Hjalmar Christensen has made his *début* with "A Freethinker, a Picture of the Times." A young lady also, under the pseudonym Anna Munch, has published a tale of Christiania, entitled "Women: a Story of Historical Development." It is said to be clever and accurate, perhaps a little too bold. Björnsterne Björnson's novel "In God's Way" is probably the best of the year. The critics find some fault, but agree as to its great ability and unflinching interest. Kristian Gloersen's new story, "Drifting Streams," and Arne Garborg's new novel, "With Mamma," are much praised, the latter receiving 2,000 marks from the "Freie Bühne," of Berlin. Kristofer Kristofersen has added to his tales a "Picture from the Last Century," entitled "Pram." Jonas Lie has published this year only a small volume of poems, "Poems and Sketches," by Th. Kierneff (recently deceased), have been brought out; he was a poet of what is known as the Welhaven school. H. Sinding published nothing new this year, but only an anthology containing many poems of young authors. The new dramatists are criticised severely, such as Holzer, Sinding, Vette, Viele, Bendix Lange, etc. Henrik Ibsen has not contributed any dramatic work this year. N.

Rolfson's "Svein Urad" is pronounced to be only so-so in merit, and G. Heiberg's "King Midas" was brought out in the Royal Theatre at Copenhagen, and later in Berlin and Vienna. Great difference of opinion exists as to its real merits. It is felt to be an attack on B. Björnson's school of thought, and has naturally aroused opposition. In prose literature there are several new books. S. Bugge, a genial philologist, spoken of last year in this connection, has completed the first series of his "Studies on the Legends of Northern Gods and Heroes," begun some ten years ago. Hans Ross's appendix to Aasen's "Norwegian Dialect Dictionary" is also, after long delay, making its appearance in print. Clara Tschudi's "Life of the Empress Eugénie" and W. Troje's book on "Thomas Carlyle, his Life and Works," deserve some commendation at least. H. Jaeger has written a book about Bergen and its inhabitants, and has also published a collection of his tales and sketches. Arne Garborg has printed a volume of his critical and controversial papers, and D. Meidell, a veteran journalist, has also brought out additional controversial and humorous essays. In philosophy and theology the year 1890 is almost a blank. There is no work of sufficient value to require mention in the present record.

Poland.—There is not much of moment in literature in Poland this year to which we can call attention. Boleslaw Prus's three-volume novel "The Puppet" is a rather remarkable work of its kind; it has been criticised a good deal, but manifests undoubted ability. Other novels are: "Count Witold," by S. Brewuski; "The Lotos Flower," by Mlle. Rodziewicz; "The Counts of Starosta," by W. Los; and "Hessy O'Grady," by E. Maganowski. In the way of historical romances there are T. T. Jez's "The Christian Knight" and "In the Morning," relating to the Southern Slavs; K. Kraszewski's "Bartochowski," a picture of the habits and customs of the eighteenth century; and T. Luszczyński's "The Slaves of the Tartars," in the dolorous days of the thirteenth century. The novelette seems to be coming more and more into vogue. Sienkiewicz, the poet Gomalicki, Lentowski, Balucki, Lubowski, Gawalewicz, Sewer, and Dyasinski, all good writers, have freely contributed to this kind of fiction. Lady writers are also numerous, and quite successful on the whole. In the drama there has been much activity, and some of the productions of the year will probably survive. Among these are E. Lubowski's comedy "The Wives' Confidante," K. Zaleski's farce "Oh, those Men!" Sewer's drama of popular life "For the Holy Ground's Sake," and K. Gliński's tragedy "Almansor," from Spanish history. In poetry very little of consequence has been done. Several new writers show traces of genuine talent. Rodoc's third series of satires is above the average in style and wit. History this year has been mainly confined to reproduction of documents and sources of history, such as the "Town and Country Acts," by Prof. Liske; "The Laws, Privileges, and Statutes of the City of Cracow," by Piekosinski; and the like. "The History of Poland," by E. Boguslawski, is criticised as leaning too much to Panславism. W. Lozinski's "The Patricians and Citizens of Lemberg in the Sixteenth and Seventeenth Centuries" is highly

spoken of by competent judges. Some narratives of travel have appeared. "The Geographical Lexicon of Poland," in its ancient extent and importance, has reached its tenth volume and is highly esteemed. There is also a journal of geography and ethnography established in Warsaw, which promises well for the future of natural science.

Russia.—In regard to literature in Russia the critics speak in desponding terms, as if it were running into "individualism" to a harmful extent. Count Tolstoi's notorious "Kreutzer Sonata" occupies the attention of reviewers very largely, as it relates to a subject, viz., strange and unhappy marriages, with which it is not easy to deal judiciously for public benefit. They find it difficult to speak of the work in any terms adequate to its power for mischief as well as for good, possibly. Other peoples, who know the book by translation, are even more in the dark than the count's own countrymen. The poet Minshi puts forth a "philosophical" theory, in a book entitled "In the Light of Conscience," but, as it is partly made up of pessimism and some of the antinomies of Kant, it is not likely to prove of much value to any one. There is a plain demand for some philosophical and ethical basis on which agreement ought to be had. A. Tchikoff publishes stories in illustration of this. He calls them "Discontented People," and uses his opportunity to discuss all sorts of questions on the general aimlessness and inanity of human life. A. Ertel's story of village life, since the emancipation of the serfs, is entitled "The Gardeners: their Servants, their Adherents, and their Enemies," and may prove to be of service to thoughtful readers. The drama is indebted to "The Artist," a new magazine, for publishing some ten plays in its pages this year. The plots seem to be disgusting enough, being mostly based on adultery and its strange consequences in regard to morals generally. The idea of the writers for the most part is the pernicious one that feeling is in all cases to override and despise all vows and promises in marriage. Unhappily, dramatic literature displays a like tendency almost everywhere. Saltikoff's place in literature is discussed by Th. Mikhailovski, and A. Puipin and K. Arsenieff have gathered material for his biography. A complete collection of Saltikoff's works, in nine volumes, appeared this year. A new edition of Ostrovski's works has also been published. Important for the history of modern Russian literature are the "Memoirs" of Madame Golovatchev, formerly Madame Panieff. A biography of A. J. Koshelev, one of the Slavophiles, is in preparation. A. Skabitchevski has brought out anew his "Forty Years of Russian Criticism" (1820-'60), with some other essays. Vengorov's first volume of "Critical and Biographical Dictionary of Russian Authors" has also appeared. It covers only the letter A. Questions in philosophy and psychology attract attention, as heretofore. Prince S. Trubetzkoy has entered the arena, and, taking "The Metaphysics of Ancient Greece" as his topic, he expatiates with boldness and confidence on improvements in philosophy and ethics. In history, ethnography, and archaeology the year 1890 has been fruitful. A. Lappodanilevsky writes excellently of Russian finance in the seventeenth century; Prof. Serguévitch dis-

cusses "Russian Legal Antiquities," i. e., territories and population; and M. Dyakonov gives the history of autocracy in "The Power of the Tsars of Muscovy in the Sixteenth Century." V. Andrievitch has written a "History of Siberia," in six volumes. A well-written "History of Catharine II.," Vol. I, has appeared, and promises to be a useful and interesting addition to historical literature. The Academy of Sciences has issued "Records of the State of Muscovy," Vol. I, 1571-1634, edited by N. A. Popoff. Mention may also here be made of D. Tzvetayev's "Protestantism and Protestants in Russia down to the Reforms of Peter the Great." In ethnography two books are worth noting, A. Kharowzin's "The Kirgheze of Bonheef" and N. Kharvuzin's "Russian Laplanders." Archaeology has not received its usual attention this year. S. Stepniak, the famous Nihilist, toward the close of 1890 succeeded in making his way to the United States. His purpose was to deliver lectures to the American people and interest them in the cause he advocates. Among those who have died are: Madame Khvost-Chinski, N. T. Tshernishofski, a sort of ring-leader of nihilism; Prof. A. Grudovski, and Prof. O. Th. Miller, both eminent men in history and literature.

Spain.—As liberal political ideas are spreading in Spain, even though slowly, their effect in stimulating authorship and publishing books becomes evident. The Royal Academy of History has been rather inert of late, and complaint is freely made of its sluggishness. A new edition of the renowned Lope de Vega's work is determined upon by the Academy, and is entrusted to a thoroughly competent editor, Don M. M. Pelayo. The taste for ancient and modern art is decidedly on the increase, and the call made for books in this department plainly indicates public sentiment. A work, to be issued in parts, entitled "Spain, Artistic and Monumental," is under way, with great success thus far. "Seville, Monumental and Artistic," by José G. y Gomez, deserves the highest commendation. Two volumes of Count La Vinaza's works on Spanish artists (two hundred in number), from the eleventh to the sixteenth century, have been brought out; the second volume reaches to the letter L. A work by M. Danvila, on "The Expulsion of the Spanish Moors," is much commended, and treats suggestively the question whether this expulsion was not an unwise thing, after all. Spanish interest in early American history is largely increased by the approaching fourth centenary of Columbus's great work, which is to take place in Madrid in 1893. Much critical and learned discussion has been entered into as to the actual, verifiable facts in regard to the nationality of Christopher Columbus. C. F. Duro's book, "Nebulosa de Colon," published early in the year, is marked by its ability and good sense, and has aroused public interest in the questions at issue between Spain and other countries as to the actual birthplace of the great discoverer. In regard to *belles-lettres* not much can be said for 1890. Poets are sufficiently numerous, but nothing remarkable has seen the light during the year. Some few dramatic trifles, as the critics term them, have been put in print. Novels, also, are few and of little or slender merit. Emilia P. Bazan has published a short and capital tale,

"Un Destripador de Antano." In natural science no works of value have been brought out. Translations from Oriental languages continue to be made, as in previous years, and with fair success. In bibliography Vols. III and IV of Gallardo's "Ensayo de Una Bibliographie," have been published, together with two prize essays. Literary clubs or printing societies in the capital, as well as in the provinces, have shown unusual activity. Their publications are of a high order of merit, and do credit to the taste, skill, and ability of those engaged in so praiseworthy an undertaking.

LOUISIANA, a Southern State, admitted to the Union April 30, 1812; area 48,720 square miles. The population, according to each decennial census since admission, was 152,923 in 1820; 215,739 in 1830; 352,411 in 1840; 517,726 in 1850; 708,002 in 1860; 726,915 in 1870; 939,946 in 1880; and 1,118,587 in 1890. Capital, Baton Rouge.

Government.—The following were the State officers during the year: Governor, Francis T. Nicholls, Democrat; Lieutenant-Governor, James Jeffries; Secretary of State, Leonard F. Mason; Treasurer, William H. Pipes; Auditor, Ollie B. Steele; Superintendent of Public Education, Joseph A. Breaux, succeeded in July by William H. Jack; Attorney-General, Walter H. Rogers; Commissioner of Agriculture, Thompson J. Bird; Chief Justice of the Supreme Court, Edward Bernudez; Associate Justices, Felix P. Poché, succeeded by James A. Breaux, Samuel D. McNery, Charles E. Fenner, and Lynn B. Watkins.

Population.—The following table exhibits the population of the State by parishes, as ascertained by the national census of this year, compared with similar figures for 1880:

PARISHES.	1880.	1890.	Increase.
Acadia.....	13,281	13,281	
Ascension.....	16,895	19,545	2,650
Assumption.....	17,010	19,629	2,619
Avoyesles.....	16,747	25,112	8,365
Baton Rouge, East.....	19,966	25,922	5,956
Baton Rouge, West.....	7,667	8,363	696
Bonville.....	10,442	14,108	3,666
Bossier.....	16,022	20,380	4,358
Caddo.....	26,296	31,555	5,259
Calcasieu.....	12,484	20,176	7,692
Caldwell.....	5,767	5,814	47
Cameron.....	2,416	2,828	412
Carroll, East.....	12,184	12,362	178
Carroll, West.....	2,716	3,748	1,032
Catahoula.....	10,277	12,002	1,725
Claborne.....	18,857	23,812	4,955
Concordia.....	14,914	14,771	* 143
De Soto.....	15,608	19,560	3,952
Feliciana, East.....	15,182	17,908	2,726
Feliciana, West.....	12,809	15,062	2,253
Franklin.....	6,495	6,900	405
Grant.....	6,188	8,270	2,082
Iberia.....	16,676	20,997	4,321
Iberville.....	17,541	21,848	4,307
Jackson.....	8,328	7,153	1,175
Jefferson.....	12,166	13,221	1,055
Lafayette.....	13,275	15,966	2,691
Lafourche.....	19,113	22,065	2,952
Lincoln.....	11,075	11,753	678
Livingston.....	5,258	5,769	511
Madison.....	13,906	14,135	229
Morehouse.....	14,206	16,786	2,580
Natchitoches.....	19,707	25,896	6,189
Orleans.....	216,080	242,033	25,953
Ouachita.....	14,885	17,985	3,100
Plaquemine.....	11,375	12,541	1,166
Pointe Coupee.....	17,745	19,613	1,868
Rapides.....	23,528	27,642	4,114
Red River.....	8,573	11,818	3,245
Richland.....	8,440	10,230	1,790
Sabine.....	7,341	9,390	2,049

PARISHES.	1880.	1890.	Increase.
St. Bernard.....	4,405	4,326	* 79
St. Charles.....	7,161	7,787	626
St. Helena.....	7,504	8,062	558
St. James.....	14,714	15,715	1,001
St. John the Baptist.....	9,656	11,250	1,594
St. Landry.....	40,004	40,250	246
St. Martin.....	12,663	14,894	2,231
St. Mary.....	19,891	22,416	2,525
St. Tammany.....	6,887	10,160	3,273
Tangipahoa.....	9,688	12,635	2,947
Tensas.....	17,815	16,647	* 1,168
Terrebonne.....	17,957	20,167	2,210
Union.....	13,526	17,904	4,378
Vermilion.....	8,728	14,234	5,506
Vernon.....	5,160	5,908	748
Washington.....	5,190	6,700	1,510
Webster.....	10,005	12,466	2,461
Winn.....	5,846	7,032	1,186
Total.....	980,946	1,118,587	137,641

* Decrease.

Finances.—The following is a summary of the operations of the State treasury for the biennial period ending Jan. 1, 1890:

Balance in all funds, Jan. 1, 1888..... \$2,297,958 10
Receipts during 1888..... 2,180,695 34

Total..... \$4,478,656 34

Disbursements during the year 1888..... \$4,197,786 91

Balance in all funds, Jan. 1, 1889..... \$289,869 43
Receipts during 1889..... 2,120,026 70

Total..... \$2,409,896 13

Disbursements during 1889..... \$2,105,741 98

Balance in all funds, Jan. 1, 1890..... \$254,134 15

The gratifying report is made by the Treasurer that the revenues of 1889—derived from taxes, licenses, etc., for that year—will be amply sufficient to meet the warrants drawn against them; and that, with reasonable economy by the Legislature, there need be no future accumulation of unpaid warrants.

The following is a statement of the total debt of the State on May 1, 1890:

Consolidated bonds outstanding..... \$11,541,900 00
Constitutional bonds, in lieu of consolidated bonds..... 217,600 00
Interest coupons outstanding..... 481,555 17
Baby bonds and par certificates..... 1,288,652 52
Fractional certificates..... 646 74
Warrants issued on revenue of 1878..... 21,002 87
Other outstanding warrants unpaid..... 282,494 86

Total..... \$14,433,881 16

There are also outstanding warrants to the value of \$125,523.08, which are an indebtedness of the State, but are receivable in payment of back taxes only.

From the irregularities of ex-Treasurer Burke the State will lose a comparatively small sum. The final statement of State bonds fraudulently issued by him is as follows: Consolidated bonds, supposed to be canceled or destroyed, \$303,600; constitutional bonds, issuable only in exchange for certain consolidated bonds, \$70,000; baby bonds, supposed to be canceled, \$421,935; total, \$795,535. By the unlawful sale of these bonds the ex-Treasurer secured large sums of money, which he converted to his own use. The law is, however, well settled that the State is not responsible for these wrong-doings, and that the bonds wrongfully issued are not legal obligations of the State. The United States Supreme Court, in a similar case, has declared that "the Gov-

ernment itself is not responsible for the wrongs or negligences or omissions of duty of the subordinate officers or agents employed in the public service, for it does not undertake to guarantee to any person the fidelity of any of the officers or agents whom it employs, since that would involve it in all its operations in difficulties which would be subversive of the public interests." In accordance with this view, the civil suit against Maurice J. Hart, begun in October, 1889, to compel him to return to the State \$61,000 of the constitutional bonds fraudulently issued by the ex-Treasurer, was decided in the local district court, on March 27, in favor of the State, and the bonds were surrendered. A similar decision was rendered against Miss Laura Gaines, on March 21, and on May 29 the State obtained another judgment against Maurice J. Hart for the return of certain consolidated bonds held by him. Thereupon the holders of the fraudulent securities, seeing that they had no standing at law, and deeming it a hardship to lose the purchase money that they had innocently paid, petitioned the Legislature, on May 28, to grant them relief by issuing to them valid State bonds of a face value equal to that of the fraudulent bonds, but they failed to obtain the desired legislation. Before the fraud of the ex-Treasurer was discovered interest coupons to the value of \$88,970 had been presented to the State treasury and paid. For the purpose of recovering this loss, if possible, a suit was begun, on May 12, against the sureties upon the bond of the ex-Treasurer.

In the criminal proceedings that were begun in October and November, 1889, against the ex-Treasurer and Maurice J. Hart, the trial of the latter for embezzlement of State bonds took place in January, and resulted in his acquittal on Jan. 25. The other criminal cases against him for publishing forged bonds were discontinued on Feb. 13. On July 5 an act of the State Legislature was approved by the Governor, authorizing him to offer a reward of \$10,000 for the capture and return to the State of the defaulting ex-Treasurer, but up to the close of the year he was still at large.

Valuations.—The total assessed valuation of property in the State, not including railroad, telegraph, and telephone property, was \$208,476,914 in 1888, and \$226,392,288, in 1889. The valuation of the country parishes in 1888 was \$88,799,720, and in 1889, \$97,123,282; the parish of Orleans was valued in 1888 at \$119,277,194, and in 1889 at \$129,268,905. In the country parishes the valuation of lands in 1888 was \$52,287,279, and in 1889, \$55,053,261; of town lots in 1888, \$11,490,340, in 1889, \$12,914,307; of live stock in 1888, \$11,752,194, in 1889, \$12,721,144; of other personal property in 1888, \$13,269,907, in 1889, \$16,434,570. In the parish of Orleans the valuation of town lots in 1888 was \$85,773,509, in 1889, \$86,427,023; of live stock in 1888, \$1,068,305, in 1889, \$1,051,825; of other personal property in 1888, \$32,435,380, in 1889, \$41,790,057. The rate of State taxation is 6 mills on the dollar.

Legislative Session.—The regular biennial session of the General Assembly began on May 12 and adjourned on July 10. Its important action on the question of renewing the license to a State lottery is considered elsewhere. The

lease of the State convicts to S. L. James, which would expire in March, 1891, was renewed for ten years from that date, the lessee paying an annual rental of \$50,000 to the State and agreeing to employ the convicts only upon levees, railroads, canals, or other works of internal improvement, and in no case to use or hire or sublet them for agricultural work. Another act requires all railway companies, except street railway companies, to provide equal but separate accommodations for the white and colored races, by providing two or more passenger coaches for each train, or by dividing each passenger coach. Conductors are clothed with authority to enforce this act, and to refuse transportation to persons who refuse to comply with its provisions. An act for the suppression of trusts declares "every contract combination in the form of trust, or conspiracy in restraint of trade or commerce, or to fix or limit the amount or quantity of any article, commodity, or merchandise to be manufactured, mined, or produced or sold" to be illegal. The Governor was authorized to accept for the State a gift from the Trustees for the Assistance of the Blind of land and buildings in Baton Rouge, to be used by the State solely as an asylum for the blind. An amendment to the State Constitution was prepared, to be submitted to the voters of the State at the election in 1892, authorizing the city of New Orleans to issue Constitution bonds, not exceeding \$10,000,000 in amount, to run for fifty years at 4 per cent., for the purpose of funding its bonded debt, the premium bonds alone excepted, and authorizing that city to levy an annual tax of 1 per cent. to pay interest and principal at maturity. The State tax rate for 1891 and succeeding years was fixed at 6 mills, and important amendments were made to the law regulating the assessment of property for taxation. As a result of the charges of bribery of members made in connection with the efforts of the State Lottery Company to secure a renewal of its charter, a law was passed imposing a penalty of both fine and imprisonment upon persons bribing or attempting to bribe public officers or voters, and upon persons receiving bribes. Another act requires all checks drawn by the State Treasurer to be countersigned by the State Auditor, and imposes other checks upon these officers. Other acts of the session were:

Fixing the maximum tariff rate for passengers on railroads in the State at three cents a mile (children under twelve years being charged half-rate). This act does not apply to local or branch lines operated independently of the main lines, nor to roads in course of construction or to be constructed until five years after their completion.

Giving to persons who labor on logs or other timber, or who cook for persons engaged in such business, a lien on such logs and timber, concurrent with that of the furnisher of necessary supplies.

Granting to bicycles, tricycles, and other vehicles propelled by hand or foot, the same rights on the public highways as those enjoyed by carriages with horses.

Making train robbery, or the attempt at train robbery, punishable by imprisonment at hard labor not less than five nor more than ten years.

To authorize administrators, executors, tutors, and syndics to sell stocks and bonds at market rates and at private sale, with leave of court first obtained.

To provide a method by which insurance companies may reduce their capital stock to its actual value when it shall have been impaired.

To punish persons who shall engage in, seek, or agree to engage in, or in any way aid, abet, or patronize any prize fight either within or without the State.

Making it a crime for any person to shoot, stab, cut, strike, or thrust another with a dangerous weapon, with intent to kill, the penalty being imprisonment for not more than three years.

Making it a misdemeanor for any person to sell, give, or lease to any minor, any pistol, bowie knife, dirk, or anything intended to be carried or used as a concealed weapon.

Permitting the incorporation of trades unions, Knights of Labor assemblies or lodges, Farmers' Alliances, and similar organizations.

Making it unlawful for horses, cattle, hogs, sheep, or other live stock to go on the levee or the space between the base of the levees and the draining ditch, from and during the time that the water is against the levees.

Appropriating \$7,657 to pay the expenses of the State troops in the field in the parishes of Iberia, St. Mary, and Lafourche during the labor strikes in November, 1887.

Granting to persons who sell agricultural products of the United States in chartered cities and towns of the State, a special lien on such products for five days after the delivery of the same to the purchaser. Within that time the vender may seize the property sold, in whatever hands or place it may be found.

Rearranging the judicial districts of the State.

To create a new levee district called the Red River, Atchafalaya, and Bayou Bouff Levee District.

Organizing the parish of Orleans into a public levee district, to be called the Orleans Levee District.

Creating a new levee district to be known as the Pontchartrain Levee District.

Appropriating \$5,000 to improve the Bayou Pierre river.

To repeal the act creating the Fourth Levee District, and creating a new district to be known as the Atchafalaya Levee District.

Making Mardi Gras and the 4th of March legal holidays in the parish of Orleans.

To provide for placing habitual drunkards under the care and custody of curators.

Making it a crime maliciously to destroy, injure, or damage, or to attempt to destroy, injure, or damage any sugar mill, cotton gin, rice mill, or other factory in the State, or any machinery or apparatus forming part of any such factory.

To prohibit the sale or giving of alcoholic or intoxicating drink to inebriates or habitual drunkards.

To prohibit all dance houses, free-and-easy gambling dens, barrel houses, shandagoes, and like places.

Authorizing the State Board of Health to make regulations to protect the health of employes in manufactories, laboratories, and other places in which substances are used, prepared, or handled which are poisonous or detrimental to health.

Authorizing the sale at auction by common carriers of all freight unclaimed, and directing that the proceeds, after the payment of charges, shall be paid into the State Treasury to the credit of the general school fund.

To protect and advance agriculture by regulating the sale and purity of Paris green used as an insecticide.

To punish the abduction of women for prostitution.

To punish any person who, without consent of the owner, cuts, pulls down, burns, destroys, kills, or deadens, carries or floats away, any tree, wood, or timber growing or lying on the land of another, or lying in the water on land of another, or causes this to be done.

To punish any person who willfully violates a contract on the faith of which money or goods have been advanced, without tendering to the person who advanced the money or goods the amount or price thereof, or who shall willfully intertere or entice away or induce any laborer or renter, before the expiration of his contract, to leave his employer or the place rented.

Requiring every foreign corporation doing business in the State, except mercantile corporations, to file with the Secretary of State a statement showing its domicile, and the name of its agent in the State.

Providing for the sale of school-indemnity lands.

The State Lottery.—By the terms of its charter, the license of the Louisiana State Lottery Company would expire on Jan. 1, 1894. It had been understood in the State for some time that the Legislature of 1890 would be asked to renew the license, and on this subject of its renewal a considerable difference of opinion prevailed. A large and influential class of citizens, believing that lotteries were objectionable on moral grounds and that the State was incurring the odium of the world by supporting them, was radically opposed to further legislation in their favor. There was another class who believed that the only escape from the financial difficulties and burdens besetting the State was by accepting the large revenue that a lottery company would pay. Early in the year the anti-lottery people, knowing the great influence wielded by the Lottery Company by reason of its wealth, began a vigorous and persistent advocacy of their cause. On Feb. 28 they met in convention at New Orleans and organized an Anti-Lottery League for the purpose of conducting a systematic canvass. Numerous public meetings were held at New Orleans and other places under the auspices of the league, whose activity throughout the contest was very great. On April 17, John A. Morris, acting in behalf of the Lottery Company, issued a circular letter offering the State \$500,000 per annum for a renewal of the lottery license for twenty-five years. On May 13 this offer was increased to \$1,000,000 a year. A few days later, in his biennial message to the Legislature, Gov. Nicholls boldly announced his strong opposition to lotteries of every description and his determination to veto any legislation that would involve a continued recognition of them by the State. This announcement did not deter Mr. Morris from presenting his offer to the Legislature. The first debate on the subject occurred in the Senate on May 21, and from that time until the close of the session prolonged and heated discussions were frequently held. On May 22 a member of the Senate introduced a resolution making charges of bribery or attempted bribery of members by agents of the Lottery Company and demanding that an investigation be undertaken. Similar resolutions were presented to the House a few days later, but action on them in that body was indefinitely postponed. In the Senate the resolutions, after being referred to a special committee, were reported back without action and were finally smothered. The anti-lottery people, finding that the Legislature was disposed to disregard their charges, went so far as to cause the arrest of one of the members of the House on a charge of receiving a bribe; but he was soon released, the prosecution apparently having no case. The fact was well known, however, that a large and influential lobby paid by the Lottery Company was in attendance on the sessions of the Legislature. Before the lottery discussion was far advanced, efforts were made by the friends of the lottery to arrive at some compromise or agreement with its opponents, and numerous confer-

ences were held. A proposition was made that the lottery question should be submitted to the white voters of the State at a special election, and that, in case the result should be in favor of a lottery, a special session of the Legislature should be called and the necessary lottery legislation should be passed without opposition. The anti-lottery members finally rejected this proposition and no agreement was reached. The legislation desired by Mr. Morris was introduced to the House early in June, in the form of a proposed constitutional amendment, authorizing him to conduct a lottery for twenty-five years by paying to the State \$1,000,000 annually, of which \$350,000 annually should be devoted to the construction and maintenance of levees, \$350,000 to the support of public schools, \$150,000 to charitable purposes, \$50,000 for pensions to Confederate soldiers, and \$100,000 for a system of drainage in the city of New Orleans. While this bill was under discussion an offer was received, on June 18, from Benjamin Newgass, by which he agreed to pay the State \$1,250,000 per annum for the lottery franchise for twenty-five years. The House rejected this offer and passed the Morris bill on June 25 by a vote of 66 to 29. In the Senate the bill received several amendments, among others one increasing the price of the franchise to \$1,250,000 per annum, the increase going to the general fund of the State, and was passed in its amended form on July 1 by 24 to 12. On the following day the amended bill passed the House and was sent to the Governor. It was returned by him, accompanied by a veto message, the concluding portion of which is as follows:

So far as a claim for the necessity of the present measure is sought to be predicated upon the assumed condition of the poverty of Louisiana, I, as its Governor, pronounce it totally without justification or warrant. Some other motive for this measure must be found than that her people are unable honorably to carry out for themselves the duties of statehood. Knowing this contemplated measure as I do, as one dishonoring and degrading Louisiana, it has met, as it will continue to meet, my most determined opposition. At no time, and under no circumstances, will I permit one of my hands to aid in degrading what the other was lost in seeking to uphold—the honor of my native State. Were I to affix my signature to the bill, I would indeed be ashamed to let my left hand know what my right hand had done. I place the honor of the State above money, and in expressing that sentiment, I sincerely voice that of thousands of brave and true men, of good and devoted women of the State.

On July 8 the House passed the bill over the veto by a vote of 66 to 31; but in the Senate the lottery people could not count upon the necessary two thirds majority. They, therefore, did not attempt to pass the bill over the veto, but secured the passage of a resolution denying the right of the Governor, under the Constitution, to veto any bill proposing a constitutional amendment, and returned the measure to the House. The latter body reconsidered its former vote, passing the bill over the veto, and ordered the bill to be sent to the Secretary of State for promulgation. The reason for this action is founded on the omission of any reference to the veto power of the Governor in the section of the Constitution prescribing the method for its amendment.

Whether this interpretation of the Constitution is legally sound, the courts have never decided, and under such circumstances the Secretary of State notified Mr. Morris that he should refuse to publish the amendment. On Dec. 15 Mr. Morris filed in the district court of East Baton Rouge a petition for a writ of mandamus to compel the Secretary to make such publication. A hearing on the case was set down for Jan. 9, 1891.

Agriculture.—The following table shows the agricultural production of the State for the years 1888 and 1889, as reported by the State Auditor:

PRODUCTS.	1888.	1889.
Molasses, barrels.....	299,150	409,669
Sugar, hogsheads.....	200,981	208,229
Sugar, barrels.....	186,616	251,528
Cotton, bales.....	478,630	1,188,256
Rice, barrels.....	774,572	.....
Corn, bushels.....	12,196,469	13,459,734
Oats, bushels.....	464,937	856,281
Potatoes.....	1,492,045	1,704,436
Wheat, bushels.....	6,547	.....

Education.—At the Southern University for colored students, the attendance for the past four years has averaged 399. This institution was established in 1880. The Legislature of 1886 appropriated \$14,000 to aid in the erection of a permanent school building. With aid from other sources, and with \$12,000 additional raised upon a mortgage, a building has been erected at a total cost, with the land, of \$36,033.20. At the State University and Agricultural and Mechanical College at Baton Rouge there were 140 cadets in attendance in June, 1890.

Charities.—At the State Insane Asylum at Jackson there were 515 patients in June of this year, of whom 200 were colored. The institution is overcrowded, its normal capacity being 450. There are also large numbers of insane patients in the parish jails without proper treatment.

The Institution for the Blind and the Institution for the Deaf and Dumb have been united since 1888, and have occupied the university building at Baton Rouge. The Legislature this year accepted a gift from certain trustees of land and buildings at Baton Rouge, and to these the blind pupils have been removed. The number of deaf and dumb pupils cared for during the two years ending in 1890 was 68.

The State Soldiers' Home contained 50 soldiers in June, 1890. During the two years ending in 1890 the total expenses of the institution were \$18,946, while the Legislative appropriation was only \$15,000. The deficit was paid by private liberality.

At the Charity Hospital in New Orleans 6,445 patients were cared for during 1889, the daily average being 588. The receipts for the year were \$138,199.87, and the disbursements \$136,324.45. The legislative appropriation for the past two years was \$40,000 annually.

Militia.—The Louisiana National Guard numbers 418 officers and men, and the special militia force, composed of 15 companies, aggregates 704 men. A commendable interest has been manifested in the militia, which has increased steadily in numbers, and in the past few years has risen from 18 to 23 companies.

Parish Debts.—The total debt of Louisiana parishes in 1890 was \$156,915, a decrease of \$951,036 in ten years. The bonded debt is \$46,500, and the floating debt \$84,136. Of the 59 parishes, all but 16 are without debt.

Levees.—The report of the Board of State Engineers for the two years ending April 20, 1890, shows that the levee work done by the State during the period embraces the building of 110 miles of new levees and the raising and strengthening of 126 miles of old ones. The work has been done under 100 contracts at prices ranging from 11 to 19½ cents a cubic yard, the average price being 15½ cents. The total cost of the levee work undertaken by the State since April 20, 1888, is estimated at \$908,402.55, and involves 5,827,813 cubic yards of earthwork. Some of the work has been interrupted by high water, but not exceeding 54 per cent. of it remains incomplete. During the same period the Fifth Levee District has raised and enlarged its levees and built new works, involving about 834,335 cubic yards of earthwork at a cost of about \$125,180.27. The United States has also built and enlarged levees in the Fifth Louisiana Levee District, amounting to over 750,000 cubic yards at a cost of nearly \$145,000, besides doing a large amount of levee work in Desha and Chicot Counties, Ark., on which the State is largely dependent for protection. The Tensas Basin Levee District had also done levee work, which is mostly in Arkansas, amounting altogether to about 204,000 cubic yards of earthwork at a cost of nearly \$38,000.

Floods.—The latter part of February marked the beginning of a long-continued and disastrous overflow in the lower Mississippi valley. The waters of the Mississippi and Red rivers and a few tributary streams reached a height in some places above any former records, breaking through the levees and flooding the lowlands on either side for miles. Hundreds of people were driven from their homes, their cattle drowned, their crops of sugar-cane ruined, and their supplies of food destroyed. Crevasses or breaks in the levees were recorded nearly every day, from Feb. 24 to the middle of May. Among the largest and most destructive of these breaks were those at Nita plantation in St. James Parish, at Raleigh or Pecan Grove in East Carroll, at Myrtle Grove in Plaquemines, at Skipwith's Landings, at Upper Morganza in Pointe Coupee, and at Lobdell in West Baton Rouge. The tracks of the Illinois Central Railroad were submerged, and it was unable to run its trains into New Orleans for more than a month. The traffic of the Texas Pacific and Southern Pacific Railroads was also seriously interrupted.

According to a report of the Board of State Engineers, made to the Legislature on May 31, the aggregate width of crevasses caused by the flood was 3.73 miles on the Mississippi and Old rivers, 2.41 miles on the Red river, and 2.46 miles on the Atchafalaya, Lafourche, and Des Glaizes rivers, a total of 8.6 miles.

During the latter part of May the waters receded, and by June 1 agricultural work could be resumed in most places. The sugar plantations suffered the greatest damage, while the cotton planters, by replanting, were generally able to secure the usual crop.

Political.—The only general election held in the State this year was for members of Congress in November. Six Democratic candidates were elected.

LUTHERANS. The following is a summary of the statistics of the Evangelical Lutheran Church in America for 1890, as they are given in the "Lutheran Church Annual": The Church numbers 57 synods, 4,774 clergymen, 8,160 congregations, 1,188,993 communicant members, 6,500,000 baptized members, 3,573 Sunday-schools, 333,804 pupils, 2,080 parochial schools, 958 teachers, and 110,048 pupils. The institutions of learning number 23 theological seminaries, having property valued at \$1,096,778, endowment amounting to \$441,894 (11 not reporting), having 72,505 volumes in their libraries, employing 77 professors, and having 955 students; 28 colleges, having property valued at \$1,452,351, endowment amounting to \$648,500 (13 not reporting any endowment, being supported by annual gifts), having 95,790 volumes in their libraries, employing 216 professors, having 3,852 students, of whom 800 have the ministry in view; 87 academies, having property valued at \$443,500 (10 not reporting), 12,930 volumes in their libraries, employing 157 instructors, and having 2,743 students; 12 ladies' seminaries, having property valued at \$242,500, having 6,425 volumes in their libraries, employing 95 instructors, and having 998 pupils. Besides these there are 33 orphan's homes, having property valued at \$759,070 and having 1,673 inmates; 30 homes for the aged, homes for deaconesses, hospitals, etc., having property valued at \$1,241,000 and having 877 inmates. There are published 140 church papers, of which 48 are English, 51 German, 16 Swedish, 15 Norwegian, 4 Danish, 3 Finnish, 2 Icelandic, and 2 French.

The Lutheran Church in America is divided into synods, and these again into four general bodies, each consisting of a number of district synods. The Synodical Conference was the only general body that held a convention during the year.

The Synodical Conference, organized in 1872, is an almost exclusively German body, and embraces 4 district synods numbering 1,365 ministers, 1,910 congregations, 396,522 communicant members, 178 Sunday-schools, 11,133 pupils, 1,306 parochial schools, 757 teachers and 77,353 pupils, 4 theological seminaries, 5 colleges, 4 academies, and 9 orphan's homes and hospitals. The thirteenth convention was held in St. John's Evangelical Lutheran Church, St. Paul, Minn., Aug. 13-19, 1890. The opening sermon was delivered by the president, the Rev. John Bading, of Milwaukee, Wis., who was re-elected president for the fifth time. He has been serving his synod in this official capacity since 1882. There was a full attendance of delegates from the district synods. The General English Conference of Missouri and other States was formally received as a district synod. The morning sessions of the convention, and parts of the afternoon sessions, were devoted to the discussion of theses on the subject of "Government." Much time was also devoted to consideration of the reports of the boards of missions. The missionary operations of this body are confined to the work of home missions in the West, the

Northwest, the South, and among the freedmen. The work is under the control of a missionary commission. To the district synods is assigned the duty of carrying on missionary operations within their respective districts, while the general body directs its energies chiefly to the scattered German immigrants and to work among the freedmen in the South. The other interests of this general body are intrusted to the care of special committees. Both the general missionary operations and the mission work among the colored population in the South were reported as being in a flourishing condition. For the final success of the work among the freedmen, enlarged facilities for church and school were found to be necessary. Action was taken to enable the missionary commission to provide the necessary accommodations for the schools in New Orleans and elsewhere, where there is a constantly increasing number of pupils. Provision was also made to enter more largely into the sphere of English missionary operations. The Synodical Conference, the most German of German Lutherans, is preparing to take hold of the English work with the same energy with which its German work is carried on.

Some time was also devoted to discussion of the school question, which has become a burning topic, especially in Illinois and Wisconsin. The position that Lutherans have taken in this matter has been grossly misrepresented and misapprehended. Lutherans are not opposed to the public-school system, nor do they ask the State to appropriate funds for the benefit of their parochial schools. On the other hand, they pay their school tax; but they ask the privilege of maintaining schools of their own, in which they can teach the Bible with the secular branches. They feel that they can not afford to have their children deprived of Christian training. Lutherans will not give up their Bibles without a struggle, both for themselves and their children. All the district synods had taken action in this matter. The general body reaffirmed their action, and adopted as its own action the resolutions of the synod of Missouri, Ohio, and other States, at its late convention. As these resolutions give correctly the position that Lutherans have taken in this matter, they are here presented so far as they have a bearing on the general subject:

1. *Whereas*, The Word of God, our rule of life, enjoins upon all Christian parents the duty of bringing up their children in the nurture and admonition of the Lord: therefore all Christians who educate their children in schools are in duty bound to intrust their children who are not yet confirmed in Christian truth to such schools only as secure the education of children in the nurture and admonition of the Lord, while at the same time it is with us self-understood that we are willing to make good citizens of our children, to the utmost of our ability, and that we also endeavor to give them the best possible schooling in the use of the English language.

2. *Whereas*, In the non-religious public schools, wherever they are conducted in the sense of the non-religious state, not only Christian education is excluded, but also, as a rule, things not in harmony with the Word of God are by way of instruction and discipline inculcated on the children, and the spiritual life of Christian children is thus endangered and injured; therefore we as Christians are in conscience bound to submit to no law of the State which is di-

rected or may be used toward forcing our children into such public schools.

3. In accordance with our daily prayer, "Thy kingdom come," it is our duty to preserve and extend the orthodox Evangelical Lutheran Church in this country, and we are, therefore, in conscience bound to combat each and every law which is directed or may be used to the detriment and damage of Lutheran parochial schools, which are effective means of extending and perpetuating the kingdom of God.

4. For as much as our Lord Jesus Christ says, "My kingdom is not of this world," and "Render unto Caesar the things which are Caesar's, and unto God the things that are God's," the separation of Church and state is for all times to be acknowledged as in accordance with the Word of God; and since God has in this country vouchsafed unto us the precious boon of religious liberty, we may not as faithful stewards approve of any legislation which tends toward a confusion of spiritual and secular affairs and endangers our religious liberty, and we most cordially approve of combating with legitimate means such laws as have to the detriment and damage of our parochial schools been enacted in the States of Wisconsin and Illinois during the past year, while on the other hand we, for the same reason, condemn all demands upon the public funds for the erection or maintenance of parochial schools.

5. For all the reasons stated we must, as Lutheran Christians, grant our cordial approval to the fact that our brethren in the States of Wisconsin and Illinois have, whether in courts of law or at the ballot-box, taken up and hitherto carried on the contest forced upon them against such laws, and we are, furthermore, determined to make most energetic opposition wherever in other States such or similar legislation may be attempted.

General Council.—This body held no convention during 1890; but in the mean time its affairs were managed by committees and boards. The mission in India, which has Rajahmundry as its central station, was cared for by the committee on foreign missions. The estimate of expenses was \$3,000. The Rev. Emanuel Edman, M.D., arrived in India during the year and took charge of the stations in and around Samulcotta. Two zenana missionaries—Miss Catharine Sadtler, daughter of the Rev. Benjamin Sadtler, D.D., and Miss Agnes Schade—were sent to India during the year. The mission reports 4 missionaries, 2 native pastors, 100 villages, 2,433 Christians, 49 schools, 42 teachers, and 899 pupils. The English, German, and Swedish home-mission committees report progress in the missions under their care. The English committee, through its superintendent, the Rev. William A. Passavant, Jr., has increased the number of missions and missionaries, 18 missions being supported, in Illinois, New Jersey, North Dakota, Utah, Washington, Wisconsin, and Oregon, each 1; 2 in Ohio; and 7 in Minnesota. The estimate of expenses was \$10,000. The German committee devoted all its resources to missionary operations in British America—Manitoba, Assiniboia, and other provinces—having three missionaries in their employ, whose labors extend over a vast territory. The estimate of expenses was \$2,000. The Swedish committee has the oversight of 150 missions, for which \$17,311.95 were expended. Besides these, the district synods supported 109 missionaries, 155 missions, at an expense of \$18,150. These items aggregate about 225 missionaries, 330 missions, and \$50,000, as the result of one year's work. This general body numbers 8 district synods, 923

ministers, 1,501 congregations, 273,659 communicant members, 1,280 Sunday schools, 155,725 pupils, 338 parochial schools, 16,206 pupils; 2 theological seminaries, 6 colleges, 5 academies, and 19 orphans' homes, homes for deaconesses, hospitals, and immigrant missions.

General Synod.—No convention of this body was held during 1890; and in the mean time its affairs were managed by the various boards, nearly all of them employing secretaries to whom is intrusted general oversight of the work of their department. The missions in India and Africa were cared for by the Board of Foreign Missions. The report in the "Annual Cyclopædia" for 1889 is the latest official report of the work of these missions. The Board of Home Missions has been prosecuting its work with energy. During the year 101 missions were supported, of which 26 are new organizations. The number of missionaries employed was 114, and the number of mission churches erected was 25. The estimate of expenses was \$35,000. The Board of Church Extension is continuing its strong efforts, in advance of the Home Mission Board, to secure lots for the erection of churches in new localities. This general body numbers 23 district synods, 969 ministers, 1,409 congregations, 154,465 communicant members, 1,355 Sunday-schools, 155,116 pupils, 5 theological seminaries, 5 colleges, 2 academies, and 5 orphans' homes and other charitable institutions. Hamma Divinity Hall, founded by the Rev. Dr. Hamma, of Baltimore, Md., erected on the grounds of Wittenberg College, Springfield, Ohio, was dedicated on Nov. 20, 1890, in the presence of a large assembly. The cost of the new building is about \$10,000.

United Synod.—This body, organized in 1886, numbers 9 district synods, 189 ministers, 396 congregations, and 85,782 communicant members; 1 theological seminary, 4 colleges, 7 academies, and 8 ladies' seminaries, besides several charitable institutions. This general body is prosecuting, with energy, the work of home missions in its territory, under the supervision of a superintendent and an efficient board of missions, as well as foreign missionary work in Japan.

Independent Synods.—Thirteen synods occupy an independent position. They number 1,319 ministers, 2,849 congregations, 328,435 communicant members, 436 Sunday-schools, 11,482 pupils, 426 parochial schools, 201 teachers, 16,489 pupils, 12 theological seminaries, 7 colleges, 13 academies, and 8 orphans' homes and other charitable institutions. Among these synods are several of the largest and most active of the district synods in the Church, such as the Joint Synod of Ohio, the German Iowa, and the various Norwegian synods, and they embrace English, German, Norwegian, Danish, Finnish, Icelandic, Slavonian, and French Lutheran congregations. Several of them are active in the work of home and foreign missions, as also the work of education. Luther College, Decorah, Iowa, of the old Norwegian synod, was dedicated on Oct. 14, 1890. The property is valued at \$75,000. The institution has 145 students.

Union among Norwegians.—During the year three of the Norwegian synods united, after many years of separation, in the formation of one large and influential synod. About the middle of the present century Norwegians began

to come to this country in considerable numbers. In 1845 their number was roughly estimated at 10,000; at present the number probably reaches nearly 500,000. The entire Scandinavian population of this country doubtless numbers more than 1,500,000, a large portion of whom are Norwegians. They have gone principally to the Northwest, and have become a powerful factor in the settlement of that portion of the United States, and they are gaining for themselves "the finest lands in the most commanding situations in the first nation of the age."

From the very beginning of the existence of the Norwegian Lutheran Church in this country there have been different parties, which could not or would not work together in harmony, though all claim to be strictly and distinctively Lutheran. These different tendencies were brought from Norway by the immigrants themselves, and hence can not be said to have arisen here, or to owe their origin to their peculiar situation in this country. Some were adherents of Hauge, a reformer in the mother-country, and were noted for their simplicity and earnestness in worship and work; others came over in full sympathy with the state Church of Norway, and were zealous for the faith and usages of the Church at home and accustomed to the full liturgy and vestments of the Church. It was very natural that these two parties, differing so widely in their views, should not be able to labor harmoniously in one synodical organization. Then there was a third party mediating between these two extremes. These differences, instead of being healed, caused great controversies to arise and a gradual development of some doctrinal differences. Notwithstanding this state of affairs, there have always been those, in all the synods, who lamented these divisions and have been anxious for peace and harmony, praying for a union of the entire Norwegian Church in America. To this end, conferences were held in 1859, 1863, and 1864, and again in 1881, and since then. During the long interval between the last two conferences, numerous changes took place, which indicated better feeling and a better understanding, and the time seemed ripe for a strong effort at a general union among all the different synods, of which there were five. The conference held at St. Ansgar, Iowa, in 1881, enabled them to see not how much they differed, but how nearly they agreed on all points that had caused divisions. Other conferences were held from year to year, with the result of gradually bringing the different parties more closely together, and in 1888 two conferences were held, at the latter of which, in November, at Scandinavia, Wis., the plan of Union agreed upon at Eau Claire, Wis., earlier in the year, was unanimously adopted and sent to the four synods for adoption. It was unanimously adopted by three; but the fourth, Hauge's, refused. From the synods the plan of union was sent to the individual congregations for ratification, and their action was again to be presented for final action at a joint convention of the synods in Minneapolis, Minn., in 1890.

Accordingly, on June 11, the Norwegian Augustana Synod, the Norwegian-Danish Conference, and the Anti-Missouri Brotherhood of Norwegians met separately, at places arranged for

them, in Minneapolis, and attended to the transaction of necessary business, after which they severally adopted the constitution prepared for the United Synod. A committee of two from each synod met in order to ascertain how far the proposed condition of union had been carried out by the several synods, and were surprised to find that the conditions had been more than complied with. On Friday, June 13, the Norwegian-Danish Conference met in Trinity Norwegian Church and took a final vote in favor of union. Meanwhile the other two bodies marched to Trinity Church. The Anti-Missouri Brotherhood arrived first, followed closely by the Augustana Synod. They were received by the conference standing, while a hymn was being sung, which was taken up by the new arrivals as they entered. This being ended, the majestic notes of the "Te Deum" burst from a thousand throats, a fitting song of praise at the successful realization of the long-desired union of brethren. The Lord's Prayer and the Apostles' Creed were repeated, and the immense congregation, which extended into the street, was dismissed with the benediction. The Rev. M. Falk Gjertsen was announced as marshal to conduct the vast congregation to the more spacious Swedish Augustana Church. More than 2,000 men were in line, and the spacious church was taxed to the utmost. The grand old battle hymn of Luther, "A Mighty Fortress is our God," was sung, after which the Rev. Rasmussen offered a deeply affecting prayer which stirred the hearts of the vast audience. After the singing of another stanza, Prof. S. Oftedahl, of Minneapolis, was elected temporary chairman, and the Rev. Kildahl, of Chicago, secretary. It was moved to adopt the constitution already adopted by the several bodies, as a whole, by a rising vote, which was done unanimously. Thus the United Norwegian Lutheran Church in America was organized. The United Synod, as now constituted, numbers 250 ministers, 850 congregations, and about 100,000 communicant members. The old Norwegian Synod and Hange's Synod still stand aloof.

The officers of the United Synod are: The Rev. Gustavus Hoyme, Eau Claire, Wis., president; the Rev. Lars M. Bjoern, Zumbrota, Minn., vice-president; the Rev. John N. Kildahl, Chicago, Ill., secretary; and the Hon. Lars Swenson, Minneapolis, Minn., treasurer. The new body at once set to work to transact important business. Among the first matters that claimed attention were the proselyting efforts of various denominations among the Scandinavians. The following protest was adopted:

Whereas, It has for many years been customary for several of the larger denominations to send missionaries and grant funds for the establishment and maintenance of missions among the Scandinavians in Europe and in this country; and *whereas* the Scandinavian people are, by this proceeding on the part of such denominations, placed before the Church and the world on the same footing as Jews, Mohammedans, heathen, and apostates; and *whereas*, the religious press of said denominations has been used for traducing and calumniating the Lutheran Church, its doctrine and Christian life, special reference being had to articles by the agent among the Scandinavians of the Congregational Church, M. W. Montgomery, in the "Pioneer" and the "Independent"; and *whereas*, in view of the conditions obtaining among our people and concerning which we deem ourselves to

have the fullest information, we must resent the placing of our people before the Church of God and the world in such light as unjust and in direct opposition to that Christian courtesy which we have a right to expect; and *whereas*, the real religious condition of our people, as compared with other people, is such that we have all reasons to be thankful to God, who in his mercy has richly blessed the preaching of his word and the administration of his holy sacraments among us; and *whereas*, the Lutheran Church, through God's grace, has found herself fully able to administer to the religious needs of the people, raising us to one of the foremost nations of the Christian world in devotion to Christian truth and institutions, and in faithfulness in Christian work; and *whereas*, the denominational proselytism of past years among the Scandinavians in Europe and in this country has already proved itself a dire cause of contention and strife and a promoter of religious indifference, laxity, and even infidelity, and a continuance of this great evil must necessarily aggravate this condition of things: Therefore, be it

Resolved, That we, the United Norwegian Lutheran Church, do hereby most earnestly protest against this proselyting among our people as unjust, unchristian, pernicious in its effects upon the Church of God, and an insult to our Church and our nationality, and do most earnestly request the denominations concerned to desist therefrom.

Perhaps the most important business transacted had reference to the institutions of learning for the synod. The three theological seminaries — Augsburg Seminary at Minneapolis, Augustana at Beloit, and Luthersk Presterskole at Northfield — were united and located at Minneapolis, and the three theological faculties were combined. This makes a strong seminary, with a faculty of five professors. The institution has an endowment of more than \$125,000 to begin with, and more is promised. It was also determined to make St. Olaf College, at Northfield, Minn., the general synodical college, with the understanding that the collegiate department of Augsburg Seminary be continued for one year, and that the seminary at Beloit, Iowa, be turned into an orphan's home.

In order to care properly for all parts of the synodical territory, the synod was divided into nineteen districts, and a "visitor" was elected for each district, whose duty it is to visit every congregation at least once in three years and report from time to time to the president of synod. The work of missions also received careful attention; \$10,000 were appropriated for home missions and a superintendent of missions was elected, who shall reside in Minneapolis and oversee the entire work of home missions, which covers nearly every State and Territory in the Northwest. The meeting of the synod was concluded with a grand jubilee, on June 18, in the Coliseum, where addresses were delivered, in Norwegian and English, to an audience of more than 5,000.

The following is a statistical summary of the Lutherans in 1890:

UNITED STATES.	Organ- ized.	Ministers.	Congre- gations.	Communi- cant members.
General Council	1867	925	1,506	973,799
Synodical Conference	1872	1,365	1,919	899,522
General Synod	1821	909	1,402	154,475
United Synod	1886	196	8,896	85,782
Independent Synods		1,319	2,849	828,435
Total		4,774	5,160	1,888,993

	Ministers.	Congregations.	Baptized members.
EUROPE.			
Germany.....	15,550	20,450	28,869,000
Denmark.....	1,700	1,900	1,967,000
Sweden.....	2,418	2,400	4,580,000
Norway.....	869	960	1,910,000
Iceland.....	180	800	170,000
Faroe Islands.....	22	22	9,992
Finland, Russia.....	800	1,002	2,028,000
Poland, Russia.....	72	104	300,000
Others in Russia.....	520	1,132	2,280,500
Austria.....	183	269	292,566
Hungary.....	425	950	1,123,508
France.....	124	95	80,000
Holland.....	67	58	68,070
Great Britain.....	24	27	24,000
Italy.....	11	11	8,089
Roumania, Servia.....	12	12	1,576
Switzerland.....	8	9	11,995
Total.....	22,980	29,644	43,138,696
ASIA.			
Palestine.....	15	9	700
Hindustan.....	134	86	67,926
China.....	24	17	4,679
Asiatic Russia.....	18	18	12,000
On Black Sea.....	5	5	8,716
Orient.....	7	7	1,943
Total.....	208	142	90,969
AFRICA.			
North Africa, Egypt.....	2	2	870
West Africa.....	40	20	8,612
South Africa.....	209	154	57,433
South Africa (colonists).....	19	26	22,170
East Africa.....	8	4	76
Madagascar.....	36	27	20,660
Total.....	314	237	108,521

	Ministers.	Congregations.	Baptized members.
OCEANIA.			
Australia (colonists).....	76	252	100,000
Australian Mission.....	9	6	281
New Zealand.....	14	14	10,643
Hawaiian Islands.....	1	3	1,000
Borneo.....	9	6	1,063
Sumatra.....	17	15	12,850
New Guinea.....	5	2	180
Fiji Islands.....	1	1	100
Samoan Islands.....	...	...	127
Total.....	182	310	125,794
NORTH AMERICA.			
United States and Canada.....	4,774	8,160	6,500,000
Greenland.....	15	12	10,000
West Indies.....	8	4	1,500
Total.....	4,792	8,176	6,511,500
SOUTH AMERICA.			
Argentina, Uruguay.....	4	4	6,500
Brazil.....	40	54	85,000
Chile.....	8	8	4,000
Total.....	47	61	95,500
SUMMARY.			
	Ministers.	Congregations.	Baptized members.
Africa.....	314	237	108,521
Asia.....	203	142	90,969
Europe.....	22,980	29,644	43,138,696
North America.....	4,792	8,176	6,511,500
Oceania.....	182	310	125,794
South America.....	47	61	95,500
Total in the world.....	28,468	38,570	50,061,250

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MAINE, a New England State, admitted to the Union, March 15, 1820; area, 33,040 square miles. The population, according to each decennial census since admission, was 298,269 in 1820; 309,455 in 1830; 501,793 in 1840; 583,169 in 1850; 628,279 in 1860; 626,915 in 1870; 648,936 in 1880; and 661,086 in 1890. Capital, Augusta.

Government.—The following were the State officers during the year: Governor, Edwin C. Burleigh, Republican; Secretary of State, Oranmandal Smith; Treasurer, George L. Beal; Attorney-General, Charles E. Littlefield; Commissioner of Industrial and Labor Statistics, Samuel W. Matthews; Superintendent of Common Schools, Nelson A. Luce; Railroad Commissioners, Asa W. Wildes, Roscoe L. Bowers, and David N. Mortland; Chief Justice of the Supreme Court, John A. Peters; Associate Justices, Charles W. Walton, Charles Danforth, who died March 30 and was succeeded by William P. Whitehouse, William W. Virgin, Artemus Libbey, Lucilius A. Emery, Enoch Foster, and Thomas H. Haskell.

Finances.—The total bonded debt of the State on Dec. 30 was \$2,602,300. Of this amount \$118,300 is drawing interest at 5 per cent., \$150,000 at 4 per cent., and \$2,334,000 at 3 per cent. per annum. During the year the sum of \$50,000 has been paid on the principal of the debt.

The Legislature of 1889 reduced the total

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State tax rate for 1890 to 2-25 mills, and at the same session made extraordinary appropriations of \$150,000 for enlarging the State House and of \$100,000 for additions to the Lunatic Hospital. As a result, the Treasurer found it necessary to make a temporary loan.

Population.—The following figures show the population of the State by counties, as ascertained by the national census of this year, compared with similar figures for 1880:

COUNTIES.	1880.	1890.	Increase.
Androscoggin.....	45,042	45,068	3,926
Aroostook.....	41,700	49,589	7,889
Cumberland.....	86,359	90,949	4,590
Franklin.....	18,180	17,058	* 1,127
Hancock.....	88,129	87,312	* 817
Kennebec.....	58,058	57,012	8,284
Knox.....	82,563	81,478	* 1,980
Lincoln.....	24,821	21,996	* 2,825
Oxford.....	62,627	80,586	* 2,041
Penobscot.....	70,476	72,865	2,389
Piscataquis.....	14,573	16,154	1,262
Sagadahoc.....	19,272	19,492	180
Somerset.....	32,338	32,627	294
Waldo.....	32,463	27,759	* 4,704
Washington.....	44,454	44,482	* 2
York.....	62,257	62,829	572
Total.....	648,936	661,086	12,150

* Decrease.

County Debts.—The bonded debt of Maine counties for 1890 was \$277,100, and the floating

debt \$172,778, making a total of \$449,878. This is a decrease of \$1,931 in the total debt in ten years. Only two of the sixteen counties are without debt.

Education.—The following common-school statistics cover the school year 1888-'89: Children of school age, 212,064; number attending, 143,113; average daily attendance, 98,642; average school year, 22 weeks 1½ day; teachers employed, 7,549; average monthly wages male teachers, \$35.22; average monthly wages female teachers, \$17.24; number of towns and plantations having town system, 120; number of school districts, 3,372; number of school houses, 4,364; built during the year, 75; cost of new buildings, \$163,650; total value of school property, \$3,481,835; total expenditures for the year, \$1,287,948.

While the number of children of school age was but 92 fewer than in the preceding year, the number in attendance on the common schools was 1,145 fewer. For the past ten years the decrease in children of school age has been 3,600, while the number of attendants has decreased 8,835. One cause for the greater proportionate decrease in attendance has been the placing of pupils in the parochial schools. It is estimated that in Lewiston, Auburn, Biddeford, Saco, Waterville, Calais, and Westbrook, at least 2,500 pupils are in these church schools. A further cause is found in the growth of free high schools, the increase in attendance upon these schools during the decade being almost equal to the decrease in attendance on the common schools. These schools are rapidly growing in favor and efficiency. During 1888-'89, the number of towns supporting them was 204, an increase of 28 in one year, and the attendance was 14,900, an increase of 595. The sum of \$139,799 was expended for their support, of which only \$34,481 was derived from the State treasury.

At the three normal schools the number of pupils was about the same as in the preceding year, the total number graduated being 101 and entering 225. The Madawaska Training School reports an attendance of 65 pupils.

Charities.—At the State Insane Hospital there were 580 patients on Dec. 1, 1889. During the year ensuing 253 patients were admitted, making a total of 833 under treatment. The expenses for maintenance during the year were \$161,599.82, and the sum of \$55,651.79 was disbursed for improvements and additions to the present buildings. The commission appointed under a resolve of the last Legislature to purchase a site for a new Insane Hospital has secured an eligible location in Bangor.

Prisons.—At the State Prison there were 150 prisoners on Dec. 1, 1889. During the year ensuing 65 were committed and 41 discharged, leaving 174 in custody on Nov. 30, 1890. The net expense of the prison to the State during the year was \$16,578.10. At the State Reform School there were 159 boys during the year, 114 remaining at its close.

Insurance.—The insurance written in the State during the year, by companies other than local mutual companies, was as follows: Fire, \$87,650,513.97; marine, \$10,323,574.77; total, \$97,974,088.74. The premiums received for the year were: Fire, \$1,175,299.50; marine, \$851,291.37; total, \$1,426,590.87. The losses paid

for the year were: Fire, \$532,092.57; marine, \$155,294.24; total, \$687,386.81.

Savings Banks.—The savings banks of the State are prosperous. The total deposits amount to \$47,781,166.90, an increase of \$3,804,081.81 over the amount at the close of the year 1889. The total number of depositors is 140,521, a gain from last year of 8,329. The total amount of State tax paid in 1890 was \$323,549.98, an increase of \$27,738.38 over 1889. The total amount of municipal taxes paid in 1890 was \$13,517.13.

Militia.—The total number of officers and men in the First Regiment of the State militia at the end of the year was 386, and in the Second Regiment 420. The Frontier Guards numbered 48 and the First Maine Battery 82. Four unattached companies contain 172 men, making the total strength of the militia 1,120. The cost of maintenance during the year was \$20,209.64.

Railroads.—During the year about 42 miles have been added to the railroad mileage of the State, as follow: The Dexter and Piscataquis, now a portion of the Maine Central, a line running from Dexter to Foxcroft, 16½ miles; the Kennebec Central, a narrow-gauge line of railroad running from Randolph, opposite Gardiner, to the National Soldiers' Home, in Chelsea, 5 miles; the Augusta, Hallowell and Gardiner, an electric street railroad, running from and through Augusta, Hallowell, Farmingdale, and to Gardiner, 7 miles; also, an extension of the Bangor Street Railway, through several streets in that city and to and through Brewer, 293 miles; the Somerset Railway extension, from Embden to Bingham, 10½ miles.

Taxation.—Under a resolve of the last Legislature, a commission, consisting of Judge Oliver G. Hall, Hon. John L. Cutler, and Gen. Samuel J. Anderson, were appointed by the Governor "to provide for a more equal, just, and equitable system of taxation of all kinds of property in this State, for State, county, and municipal purposes," and also "to provide for a better and more effectual system of collection of taxes." The commissioners entered upon their duties in November, 1889, and presented their report to the Governor in September. They submitted a proposed law, concerning which they say:

The new direct sources of State revenue under the proposed law are: "The taxation of collateral inheritances; increase in railroad taxes by removing the 2½ per cent. limit; the taxation of sleeping-car companies; the taxation of telephone instruments leased or royalty paying; the taxation of insurance and guarantee companies on gross instead of net premiums; taxation of foreign and unlicensed insurance companies; taxation of accumulations of savings banks; taxation of trust and loan associations; taxation of corporate franchises; tax on enrollment and organization of corporations; and taxes on private and special acts of Legislature. The sum which may be reasonably expected from these sources, under a system administered by an efficient Board of State Assessors, in addition to the amount to be derived from present sources, will, we believe, be quite large. But it is from the increase of taxable property which will be brought to light by the system proposed that we most confidently expect relief will be found for the general tax payer; in the new and imperative provisions which are intended to unmask the property of the dishonest, defeat the cunning of the invader, lessen the burdens of the upright citizen, and stimulate the fidelity of tax officers. The average rate of

taxation throughout the State was last year 1.71 per cent. on a valuation which in many towns was much below a 'just value.' We believe that, under the system proposed, the annual levy need not exceed an average of 1 per cent."

Valuation.—Pursuant to the law requiring a valuation of all the property in the State once in ten years, for purposes of State taxation, the Governor in 1889 appointed a valuation commission of 16 persons. This commission met on Dec. 3, 1889, and continued its sessions to March 28, when it adjourned till the second Tuesday in November. The total valuation of the State, as returned to the commission by the assessors of the cities, towns, and plantations, was \$258,910,524, against \$228,030,656 returned by the assessors in 1880. The value of the wild lands, which is to be fixed by the commission, is to be added. The amount of railroad property reported to the commission is \$2,300,000. Bank stock gives a total of \$8,336,281. In 1880 the State had a reported value of shipping of \$8,678,093. The amount reported in 1890 was but \$5,523,626, a decrease in ten years of \$3,154,470. The total value of live stock reported was nearly \$16,000,000. At the close of the year the commission had not made its final report.

Abandoned Farms.—During the year statistics were gathered by the State Commissioner of Labor and Industrial Statistics from all but 12 towns and plantations in the State, respecting the number and value of abandoned farms therein. His report shows a total of 3,318 such farms, or an average of nearly seven for each town. The number of acres included in these farms is 254,513, or 500 acres to each town, and they are valued at \$1,268,769, or an average of \$3.99 an acre.

Prohibition.—The decision of the United States Supreme Court, late in April, in the case of *Leisy vs. Hardin*, was soon followed by the opening of "original-package" shops in the larger towns and cities. A seizure of liquor at one of these shops was promptly made, and the questions involved were brought before the State Supreme Court in the case of *State vs. Burns*. The Court rendered a decision on May 29 to the effect that such seizure was illegal. The concluding portion of the opinion is as follows:

The case of *Gus. Leisy et al. vs. Hardin*, just decided by the Supreme Court of the United States on full consideration, seems to clearly settle the question, and to require us, as we are bound on such questions by the law as determined by that court, to reverse the rulings below, and sustain the law according to the respondent's contention. The opinion of a minority of the judges sitting in that case appears to be very elaborate and exhaustive of the question involved and may commend itself to many as containing the better conclusion. Our obedience is due, however, to the judgment which prevails. Not that our statute is unconstitutional, for it prohibits only the "unlawful sale" of intoxicating liquors; but that its interpretation must be constitutional.

No general effort was thereafter made to interfere with the business of these shops, until the passage of the Wilson bill by Congress compelled them to close. Regarding the general operation of the prohibitory law, the Governor says in his message to the Legislature of 1891:

It can not be denied that the law for the suppression of the liquor traffic is often violated, and that officials charged with its enforcement are frequently derelict

in duty. But it is undoubtedly true that this condition of affairs is mostly confined to our cities and larger villages. In other places the law appears to have been faithfully and successfully administered.

Political.—On May 20 a State convention of the Union Labor party met at Waterville and nominated Isaac K. Clark, of Bangor, for Governor. A platform was adopted favoring the distribution of the United States Treasury surplus among the people, the establishment of postal savings banks, the ownership of transportation and telegraph facilities by the Government, and the pensioning of every soldier and sailor who has seen service. Opposition was declared to the gift of land to corporations, the sale of land to aliens, the dealing in futures of agricultural products, and to employment of contract labor. The Australian ballot system and a graduated income tax were recommended.

On June 4 a State Democratic convention at Augusta nominated Francis W. Hill, of Exeter, for Governor, and adopted a platform that contained the following:

Resolved, That reform in the administration of the affairs of the State is urgently demanded. Needless and extravagant expenditures have come largely to absorb our State revenues, thus postponing the payment of the State war debt, upon which more than the original amount has been already paid in interest. Salaries have been unnecessarily increased, in some cases without request; and that with a population nearly stationary, with no State enterprises requiring an outlay, the expenditures for State purposes have been nearly quadrupled under the rule of the Republican party.

Resolved, That the hypocrisy and dishonesty with which the republican party has dealt with the question of temperance deserves the condemnation of all good people. They use the statutes of the State for party purposes and the corruption of the ballot. For party ends they permit the laws to be openly and notoriously violated.

On June 12 the Republican State Convention assembled at Augusta and unanimously nominated Gov. Burleigh for re-election. The platform includes the following:

It [the Republican party] favors an economical administration and a continuance of the financial policy which, under the administration of Gov. Edwin C. Burleigh, has lessened the burden of the people by reducing both the amount of the State debt and the rate of interest paid upon it.

It favors the enactment of such laws as may be necessary for the protection of labor.

It not only recognizes the evils of intemperance and sympathizes with all honest and well-directed efforts to eradicate them, but it unreservedly renews its adhesion to the principle of the prohibition of the liquor traffic, and insists upon the thorough and effective enforcement of the prohibitory law. It demands of Congress the enactment of such legislation as shall enable each State to exercise full control within its borders over the traffic in all liquors whether imported therein in the original packages or otherwise.

It favors an elective system free from corruption and fraud, and it approves of any legislation that may be required to secure that end.

It favors the policy which protects American labor against foreign competition, aids agriculture, builds up American industry, and creates an adequate home market for domestic production.

It favors liberal pensions for service rendered in the war of the rebellion.

It favors the regulation of immigration, so as to prevent the introduction of convict and pauper labor and the criminal classes.

On June 15 the Democratic nominee, Francis W. Hill, died suddenly at Exeter. A call was issued by the State committee, under which the members of the former convention reassembled at Augusta on July 2. At this meeting William P. Thompson, of Belfast, was nominated for Governor. A different spirit regarding the prohibitory question prevailed, the platform of the former convention being amended by the addition of a resolution favoring "the election of a Governor and Legislature who will resubmit the prohibitory amendment to the people." The Prohibition party was also in the field with Aaron Clark, of Buxton, as its nominee for Governor.

The election in September assumed a national importance from the fact that it was almost the only indication, prior to the November elections, of popular opinion regarding the national Administration and the recent action of Congress. The result was an increase in the Republican majority. For Governor, Burleigh, received 64,214 votes; Thompson, 45,331; Aaron Clark, 2,981; and Isaac R. Clark, 1,296. Members of the Legislature were elected as follow: Senate, Republicans 27, Democrats 4; House, Republicans 110, Democrats 41. In the First Congressional District, Thomas B. Reed, Speaker of the National House of Representatives, was re-elected by a plurality of 4,827, receiving 16,797 votes to 11,970 votes for Melvin P. Frank, his Democratic opponent. In 1888 Mr. Reed's plurality was 2,433. In the other three Congressional districts Republicans were elected by the following vote: Second District, Nelson Dingley, Jr. (Rep.), 16,459, Charles E. Allen (Dem.), 11,647; Third District, Seth L. Milliken (Rep.), 14,493, Charles Baker (Dem.), 10,978; Fourth District, Charles A. Boutelle, 15,829, Josiah Crosby, 11,236.

MARYLAND, a Middle Atlantic State, one of the original thirteen, ratified the Constitution April 28, 1788; area, 12,210 square miles. The population, according to each decennial census, was 319,728 in 1790; 341,548 in 1800; 380,546 in 1810; 407,350 in 1820; 447,040 in 1830; 470,019 in 1840; 583,034 in 1850; 687,049 in 1860; 780,894 in 1870; 934,943 in 1880; and 1,042,390 in 1890. Capital, Annapolis.

Government.—The following were the State officers during the year: Governor, Elihu E. Jackson, Democrat; Secretary of State, E. W. Le Compte; Treasurer, Stevenson Archer, who was removed from office by the Governor, on April 15, and was succeeded by Edwin H. Brown; Comptroller, L. Victor Baughman; Attorney-General, William P. Whyte; Secretary of State Board of Education, M. A. Newell; Tax Commissioner, Levin Woolford, who died Sept. 29, and was succeeded by Frank T. Shaw; Chief Justice of the Court of Appeals, Richard H. Alvey; Associate Justices, James M. Robinson, James McSherry, Levin T. H. Irving, William S. Bryan, Frederick Stone, Oliver Miller, and David Fowler.

County Debts.—The total debt of Maryland counties in 1890 was \$872,131, a decrease of \$528,964 in ten years. The bonded debt was \$839,900, and the floating debt \$32,231.

Population.—The following table exhibits the population of the State by counties as ascer-

tained by the national census of this year compared with similar returns for 1880:

COUNTIES.	1880.	1890.	Increase.
Allegany.....	83,013	41,571	3,809
Anne Arundel.....	23,526	34,494	5,568
Baltimore city.....	882,318	484,439	102,126
Baltimore County.....	88,386	72,909	* 10,427
Calvert.....	10,538	9,800	* 678
Caroline.....	18,766	18,903	137
Carroll.....	30,992	32,876	1,884
Cecil.....	27,108	25,351	* 1,257
Charles.....	18,548	15,191	* 8,357
Dorchester.....	28,110	24,548	1,738
Frederick.....	50,482	49,512	* 970
Garrett.....	12,175	14,213	2,038
Harford.....	25,042	28,998	951
Howard.....	16,140	16,269	129
Kent.....	17,603	17,471	* 134
Montgomery.....	24,759	27,155	2,426
Prince George's.....	26,451	26,050	* 371
Queen Anne.....	19,237	18,461	* 796
St. Mary's.....	16,984	18,819	* 1,115
Somerset.....	21,663	24,155	2,487
Talbot.....	19,065	19,736	671
Washington.....	85,561	59,782	1,221
Wicomico.....	18,016	19,990	1,914
Worcester.....	19,539	19,747	205
Total.....	984,943	1,042,390	107,447

* Decrease.

Legislative Session.—The regular biennial session of the General Assembly began on Jan. 1, and ended on March 31. On Jan. 14 United States Senator Ephraim K. Wilson, who received the nomination of the Democratic caucus, was re-elected for the term of six years, by the following vote: Senate, Wilson 16, Thomas S. Hodson, the Republican nominee, 6; House, Wilson 50, Hodson 28. An Australian or secret ballot law was a notable result of the session. It applies to all elections, except in 9 specified counties, and contains the following general provisions: All ballots shall be printed and distributed at public expense. The names of those candidates only who have properly filed nomination papers can be printed on the ballots. If the candidate has been nominated by the convention or caucus of a party that in the last preceding election polled at least 1 per cent. of the entire vote cast his nomination papers shall be signed by the presiding officer and secretary of such convention or caucus. Candidates may be also nominated when their nomination papers are signed by registered voters to the number of 500 if the candidate is to be voted for throughout the State; to the number of 300 if he is to be voted for in the larger cities; and to the number of 200 in all other cases. The nomination papers of candidates who are to be voted for in more than one county shall be filed with the Secretary of State, those of other candidates with the county supervisors of election, except that in Baltimore they shall be filed with the city supervisors of election. At least fourteen days before the election the Secretary of State shall certify the nominations filed with him to the respective boards of supervisors, who are charged with the duty of preparing and furnishing the official ballots. The names of all the candidates shall be on one ballot, those nominated by each political party being grouped in parallel columns, headed by the name of the party and the party emblem or device, if any. Blank spaces shall be left for writing additional

names. The voter shall place a cross opposite the name of each candidate voted for, or he may vote for all the candidates of any party by placing a cross opposite the party name or device. The ballots shall be printed with black ink, on clear white paper, and on the back of each shall be stamped the words "Official ballot for," with the name of the polling place, the date of the election, and a *fac simile* of the signature of the president of the board of supervisors preparing the ballots. Sample copies of the official ballot, without the indorsement on the back, shall be publicly posted at least four days before each election. The election clerks shall keep in a book for that purpose a record of the name of each voter and the order in which he voted. At each polling place voting shelves or compartments (not less than 1 for each 100 qualified voters, and never less than 5 in Baltimore, or less than 3 outside) shall be so erected that in marking the ballots the voters may be in sight, but screened from the observation of others. A guard rail shall be so constructed that only persons within the inclosure can approach within 6 feet of the ballot-boxes or of the compartments. A rubber stamp shall be provided in each compartment for the purpose of marking the cross. Not more than 4 voters in excess of the number of voting shelves shall be allowed within the rail at one time; and not more than 6 persons, in addition to those within the rail, shall be admitted to the poll-room at one time. The ballot clerk shall place his initials on the back of each ballot under the *fac simile* before delivering the ballot to the voter. The voter may take with him any unofficial sample ballot of a different color from the official ballot, to aid him in marking his own. After marking the ballot, he shall fold it so that his choice is not visible, and so that the initials of the ballot clerk appear. No voter within the railing shall talk with or in any way interfere with another. No official ballots can be taken from the poll-room. No ballot shall be deposited or counted unless it has the official indorsement on the back and the initials of the ballot clerk. Suitable penalties are imposed for violations of the various provisions of the act. By another act, the registration law is revised and amended in many of its details, especially in the provisions relating to the city of Baltimore.

Important changes were made at this session in the revenue laws. An annual State tax was imposed on the gross receipts of corporations organized under the laws of the State and doing business therein as follow: On steam railroad companies, telegraph or cable companies, express or transportation companies, oil or pipe-line companies, and title-insurance companies, a tax of 1 per cent.; on telephone, parlor-car, sleeping-car, safe-deposit, trust, guarantee and fidelity companies, a tax of 2 per cent.; and on electric-light and electric-construction companies, a tax of one-half of 1 per cent. When the line or business of any such company extends beyond the State it is required to pay a tax only on the gross receipts accruing from business within the State, the amount to be ascertained as prescribed in the act. Corporations organized outside the State, but doing business therein, were subjected to a similar tax on the gross receipts of their

business in the State. Telephone, parlor-car, palace-car, and sleeping-car companies were taxed 2 per cent.; oil or pipe-line companies, 1 per cent.; and electric-light, electric-construction, guano, phosphate, and fertilizer companies, one-half of 1 per cent. Such corporations were required, before doing business in the State, to file a certified copy of their charter with the Secretary of State, and to appoint at least two agents in the State on whom legal process might be served. Foreign railroad, telegraph or cable, and express or transportation companies doing business in the State, and not taxed on the shares of their capital stock in the State, were subjected to a tax of 1 per cent. on the gross receipts of their business in the State in addition to the taxes on their real property. A tax or bonus of one eighth of 1 per cent. was imposed on the capital stock of all corporations thereafter created, and upon any subsequent increase of stock of such corporations. Upon any increase of stock of old corporations, a tax or bonus of one sixth of 1 per cent. was levied. Religious and charitable corporations and railroad companies were exempted from the last-mentioned tax.

Provision was made for the issue of new certificates of indebtedness, to be called the exchange loan of 1891, to the amount of \$970,595.35, bearing not over 3-65 per cent. interest and redeemable in 1905. These certificates may be issued in exchange for or may be sold and the proceeds applied to the redemption of the loans of 1837, 1838, 1839, and 1847, now redeemable. It was further provided that all money in the treasury in excess of \$150,000 not needed for current expenses should be transferred to the sinking fund and used to purchase securities therefor, such securities to be stamped with the words "purchased for the sinking fund."

The number of tobacco inspection warehouses was reduced from five to three.

Several amendments were made to the oyster laws, the most important requiring that every oyster whose shell measures less than 2½ inches in length from hinge to mouth shall be culled out and returned to the bed. The State was re-districted for members of Congress in order to make five of the six districts reliably Democratic. A high-license law for Baltimore city was passed, increasing the price of liquor licenses to \$250 annually.

The following constitutional amendments were proposed and provision was made for their submission to the people at the next election:

1. Authorizing the Governor to veto separate items in any appropriation bill.
2. Providing that the General Assembly shall not alter or amend the charter of any existing corporation or pass any general or special law for its benefit unless said corporation shall surrender all its claims to exemption from taxation or from the repeal or modification of its charter, and that any corporation which shall accept, use, enjoy, or in any way avail itself of any rights, privileges, or advantages hereafter granted by any general or special act, shall be conclusively presumed to have surrendered any exemption from taxation granted by its charter.
3. Amending Article XV of the Bill of Rights so as to declare that all taxes ought to be uniform on the same kinds of property or class of subjects and should be levied and collected under general laws, but that the General Assembly may ex-

empt therefrom public property and the property of religious, charitable, benevolent, literary, or educational institutions. All other property may be taxed and the incomes of citizens may be taxed by general laws. 4. Amending section 1 of Article VII so that county commissioners instead of being elected every two years in November may be elected at such times in such numbers and for such periods, not exceeding six years, as may be prescribed by law. 5. Authorizing the Board of Public Works to sell, subject to such regulations as the General Assembly may prescribe, the interest of the State, whether as stockholder or creditor, in all works of internal improvement and in any banking corporation, receiving in payment the bonds or registered debt of the State. 6. Authorizing the General Assembly to enact laws taxing mortgages upon property in the State and the debts secured thereby in the county or city where such property is situated.

Other acts of the session were as follow :

To punish any person who with intent to extort money or procure other profit shall falsely accuse or threaten to accuse another of any crime or of anything which, if true, would tend to bring him into contempt or disrepute.

To punish any one who instigates, engages in, or in any way furthers any act of cruelty to any animal or any act tending to produce such cruelty, or who by any act or neglect willfully causes or permits any animal to undergo torture or cruelty.

Empowering the directors of the Maryland Penitentiary to purchase or condemn land and improvements for the purpose of enlarging said penitentiary in the city of Baltimore, and appropriating \$250,000 for land so acquired.

To punish persons engaged in betting, gambling, bookmaking, or pool selling at any race, cocking-main, base-ball match, or contest of any kind, and to punish the owners or occupiers of land, buildings, or vessels who permit such betting, etc.; but this act shall not apply to horse races at agricultural fairs or upon any race course or driving park in the State.

Adding the 30th day of May, known as Decoration Day, to the list of legal holidays.

To prohibit foreign life-insurance companies doing business in the State from making any discrimination between persons of the same class in the rate of premium charged for life or endowment insurance.

Prescribing the contents and dimensions of a standard barrel for measuring green peas and beans in the hull and other like farm products, and requiring every such barrel to be stamped by the inspector of weights and measures in Baltimore.

Extending for one, or, at the latest, two years, the time when the heating of passenger cars by stoves must be abolished.

Raising the age of consent in females from ten to fourteen years.

Making it unlawful for any railroad company to withhold from any of its employes any part of the wages of said employes for relief or insurance purposes.

To punish any person under twenty-one years of age who shall obtain any spirituous or fermented liquors by knowingly and willfully misrepresenting his age.

To prohibit the carrying of concealed weapons in the city of Baltimore.

To prohibit the sale of adulterated articles of food and drink unless the nature of the adulteration is plainly stamped or printed on each package or the purchaser is informed by the seller of its true nature, and to prohibit the sale of diseased, corrupted, or unwholesome flesh, fruits, vegetables, or other provisions.

Increasing the jurisdiction of justices of the peace.

Requiring notice of the death of any person from a contagious disease to be at once given to the Secretary of the State Board of Health.

The Chesapeake and Ohio Canal.—The wreck of this canal by the freshets of May and June, 1889, brought before the General Assembly the imperative necessity of devising some means to save the interest of the State therein from total loss. At the beginning of the session the liabilities of the canal company having priority of the claims of the State aggregated about \$4,250,000, comprising the following items: For repair bonds issued in 1878, \$500,000 and interest accrued thereon \$90,000; for labor and repairs upon the canal about \$70,000; for a judgment upon the wharf property at Cumberland, upon which execution might be issued at any moment \$30,000; for preferred construction bonds of 1844, \$1,699,500, and for interest thereon since Jan. 1865 about \$1,860,500. During several months prior to the session, the State Board of Public Works sought to obtain proposals for a lease of the property without success, and the General Assembly, in January, passed a resolution directing the board to advertise for such proposals, the bids to be opened on Feb. 4.

As a result of these efforts, a proposition was received from the Washington and Cumberland Railroad Company, which was deemed by the Governor to be advantageous to the State, and an act was passed in accordance therewith. This act provides that the canal company may lease the canal to the railroad company for ninety-nine years, renewable forever, on the undertaking of said railroad company to construct upon the tow-path or bed of the canal, or lands adjacent, a line of railroad from Cumberland to the city of Washington, and to operate the same. For such lease the railroad company shall pay to the State Treasurer, within six months of its execution, a sum equal to the principal and accrued interest of the repair bonds of 1878, also \$70,000 to meet the existing claims for labor and repairs, and also a sum equal to the judgment of about \$30,000 outstanding against the canal company. These sums the Treasurer shall apply to the purchase of said bonds, claims, and judgment and the State shall be subrogated to the rights of the former holders thereof. Within the same period the railroad company shall pay to the State Treasurer a sum equal to 25 per cent. of the principal of the preferred construction bonds of 1844, out of which he shall pay to the holders of said bonds one fourth of the principal of their bonds upon condition that they surrender them to the State. The lessee shall further pay to the State the sum of \$15,000 annually from the time its road is completed from Cumberland to Williamsport, but said annuity may be compounded at any time by the payment of \$300,000. There were numerous other provisions regulating the powers and duties of the railroad company.

In consequence of the prolonged debates arising upon this measure its passage was delayed until near the close of the session. Meanwhile, legal proceedings instituted by the bondholders against the canal company had reached an advanced stage in the courts. The holders of the repair bonds of 1878 had petitioned the Court of the District of Columbia, and also the Maryland Supreme Court, to decree a foreclosure sale of the property and the holders of the construction bonds of 1844 had appealed to the same tribunals to appoint receivers to take charge of the prop-

erty and to repair and operate the canal for their benefit. Upon these petitions, Justice Cox, of the Court of the District of Columbia, on Jan. 27, appointed receivers of the property within the District of Columbia, with authority to repair it and place it in condition for sale, and on Feb. 24 Chief-Judge Alvey, of the Maryland Supreme Court, rendered a decision appointing receivers to examine and report to him the condition of the canal, as preliminary to the determination of the question whether it should be sold or be repaired and put in operation again. The report of the Maryland receivers was made several months later, and on the basis of facts presented by them, the court, on Sept. 2, decreed that the canal should be sold. Soon thereafter the bondholders of 1844 petitioned Judge Alvey to be subrogated to the rights of the bondholders of 1878, and that they might be allowed to restore and operate the canal as a water way, notwithstanding his former decree of sale. The court in October granted their petition on condition that they would pay off the principal and interest of the bonds of 1878, liquidate all the expenses incurred by the receivers, and give bond within sixty days from the passage of the decree in the sum of \$600,000 to restore the canal and have it in running order by the 1st day of May, 1891. On Nov. 28 this bond was executed, and the money for the payment of the bondholders of 1878 was brought into court. An order was then passed directing the receivers, to turn over all the canal property to the bondholders of 1844. From this decree the canal company took an appeal. In the Court of the District of Columbia a similar decree was obtained on similar conditions covering the property in the District of Columbia. As the Washington and Cumberland Railroad Company had failed to take advantage of the act of the Legislature above mentioned, the outlook at the close of the year was that the bondholders of 1844 would obtain control and that the canal would again be opened as a water way.

The Archer Defalcation.—On March 26 a special message to the Legislature from Gov. Jackson apprised that body that the State Auditor was in possession of information indicating a misapplication by State Treasurer Stevenson Archer of the public securities in his hands. This created a profound sensation, as Mr. Archer stood high in the counsels of his party, being chairman of the Democratic State Committee. Pursuant to the suggestion of the Governor, a joint legislative committee of investigation was at once appointed, and this committee made an examination of the State securities. Of bonds to the value of \$572,000, supposed to be deposited in vaults in Baltimore, the committee, according to their preliminary report on March 28, were able to find only \$445,000, showing a deficit of \$127,000. Mr. Archer was ill at his home at Belair, and unable to render the committee any assistance. As the regular legislative session would expire by constitutional limitation on March 31, a special act was passed giving the committee power to continue its investigations after the close of the session, and when satisfied of the malfeasance of the Treasurer, to take suitable steps to procure his removal from office and to protect the State from loss. On March 31 Mr. Archer tendered to the

Governor his resignation as Treasurer, but it was not accepted. The investigating committee, on April 10, made a report to the Governor, on the basis of the testimony then before it, declaring that sufficient evidence had been discovered to show that Mr. Archer had been guilty of deliberate malfeasance in office by the misappropriation of large numbers of bonds belonging to the sinking fund, amounting to \$127,000 or thereabouts; that it had traced the disposition of \$43,500 of the missing bonds; and that it recommended the immediate institution of suits against the bondsmen of Mr. Archer and the beginning of suitable criminal proceedings against him. The Governor thereupon notified the Treasurer to appear before him on April 15 to answer the charges of the committee, and on the same day he was put under arrest to answer a criminal charge of embezzlement. On April 15 Mr. Archer did not appear in his defense. He was, therefore, summarily removed from office and Edwin H. Brown was appointed his successor. Early in June the investigating committee published its final report, showing the total defalcation to be \$132,401.25. Of the missing bonds, the committee traced the disposition of all except \$10,000. They also found that the State officers, especially the Governor, had been too lenient in the performance of the duties imposed upon them by the Constitution, and had thereby made more easy the wrong-doing of the Treasurer. In the criminal proceedings, which were begun in April, a motion was made by the attorneys of Mr. Archer to quash the indictment on the ground that the statute defining and punishing embezzlement did not cover the case of misappropriation of public funds by a State Treasurer. This motion was granted by Judge Stewart of Baltimore, and an appeal from his ruling was taken to the State Supreme Court. Arguments on this point were made on June 17, and a decision of the court was reached on July 1. The statute in question provides:

That any person holding office in this State, whether elected or appointed by the Governor, corporate authorities of Baltimore, or any other authority legally authorized to make such appointment, who shall fraudulently embezzle or appropriate to his own use money, funds, or evidences of debt, which he is by law bound to pay over, account for, or deliver to the Treasurer of this State or to any other person by law authorized to receive the same, shall be guilty of a misdemeanor, etc.

The court decided that the words "or to any other person by law authorized to receive the same" were broad enough to cover the present case, inasmuch as a retiring Treasurer is bound by law to account to his successor. The case was remanded to the lower court for trial; but on July 7, before the hearing should begin, Mr. Archer appeared in court, pleaded guilty, and was sentenced to five years in the State Penitentiary. Meanwhile suits had been begun against his bondsmen, and a judgment against them was obtained early in January, 1891.

As a result of this defalcation, the Legislature, in its closing days, passed an act declaring that the State Treasurer should not have access alone to the sinking fund and other State securities in the deposit vault, at Baltimore, but should always be attended by the Comptroller, or by some other member of the Board of Public Works

designated by the Governor when the Comptroller could not attend. It was further provided that two different keys should be necessary to reach the vaults, one of which should be held by the Treasurer and one by the Comptroller, and that each should record, in a separate book open for public inspection, an accurate list of all the securities in the vaults at all times.

Marble.—There are three marble quarries in the State, the product of which in 1889 amounted to 303,305 cubic feet, the total value being \$139,816. The expenses of the three quarries are divided as follow: Total wages, including salaries paid to office force, \$78,240; value of supplies and materials consumed, \$18,847; all other expenses, rent, taxes, insurance, etc., \$15,417; total expenses incurred in producing entire amount of marble, \$112,504. Capital invested in land, \$259,400; in buildings and fixtures, \$50,890; in tools, live stock, machinery, and supplies on hand, \$119,914; in cash, \$146,700, total capital, \$576,904.

Agricultural College.—The Maryland Agricultural College contained about forty students at the end of this year. It is in Prince George's County, on an estate of 286 acres, about eight miles from Washington, and is supported in part by an annual appropriation of \$6,000 from the State and by the annual appropriation of Congress for an experiment station.

Boundary Questions.—In the matter of the dispute with Virginia over the rights of the State in the Potomac river, the Legislature this year passed an act directing the Attorney-General to take the necessary steps to obtain a decision of the United States Supreme Court as to the scope and effect of the compact of 1785 between Maryland and Virginia, whether it applies to Pocomoke Sound, and whether the citizens of Maryland have a right, jointly with the citizens of Virginia, to take oysters therein. By another act, the Attorney-General was directed to obtain from the same court a decision that will settle the controversy with West Virginia as to the boundary between Garrett County, Maryland, and Preston County, West Virginia.

Decisions.—On June 19 the State Supreme Court rendered a decision in the case of *McAllister vs. State*, affirming the constitutionality of the act of 1888 to prevent fraud and deception in the sale of oleomargarine, it being declared a valid exercise of the police power by the State. On the same day, in the case of *Einger vs. State*, the act of 1886, which provides that no person shall engage in the business of plumbing in the city of Baltimore unless such person shall have received from the State Board of Commissioners of Practical Plumbing a certificate as to his competency and qualification, was likewise held to be constitutional.

The Australian ballot law passed at the session of this year was attacked in the case of *Lankford vs. County Commissioners*, upon three grounds, viz.: 1. That it was not duly approved and signed by the Governor within the time required by the Constitution; 2. That it is a local or special act, and as such is repugnant to and in violation of section 33 of Article III of the Constitution; 3. That it violates section 29 of Article III of the Constitution, because the subject of the act is not sufficiently described in the title thereof.

The State Supreme Court, by a decision reached Nov. 13 (two judges dissenting), found all of these objections untenable, and affirmed the validity of the act.

Political.—At the November election a solid Democratic delegation to Congress was chosen.

MASSACHUSETTS, a New England State, one of the original thirteen, ratified the Constitution Feb. 6, 1788; area, 8,315 square miles. The population, according to each decennial census, was 378,787 in 1790; 422,845 in 1800; 472,040 in 1810; 523,159 in 1820; 610,408 in 1830; 737,699 in 1840; 994,514 in 1850; 1,231,066 in 1860; 1,457,351 in 1870; 1,783,085 in 1880; and 2,238,943 in 1890.

Government.—The following were the State officers during the year: Governor, John Q. A. Brackett, Republican; Lieutenant-Governor, William H. Haile; Secretary of State, Henry B. Peirce; Treasurer, George A. Marden; Auditor, Charles R. Ladd; Attorney-General, Andrew J. Waterman; Railroad Commissioners, George G. Crocker, Edward W. Kinsley, and Everett A. Stevens; Insurance Commissioner, George S. Merrill; Chief Justice of the Supreme Court, Marcus Morton, who resigned on Aug. 27 and was succeeded by Associate-Justice Walbridge A. Field by appointment of the Governor; Associate Justices, Walbridge A. Field (promoted, as above stated, in September), Charles Devens, William Allen, Charles Allen, Oliver W. Holmes, Jr., Marcus P. Knowlton, and James M. Morton (appointed in September to succeed Justice Field, promoted).

Population.—The official returns for the census of this year are compared with similar returns for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Barnstable.....	81,897	29,172	* 2,725
Berkshire.....	69,032	81,103	12,076
Bristol.....	189,040	186,465	47,425
Dukes.....	4,300	4,369	69
Essex.....	244,353	299,995	55,640
Franklin.....	96,901	38,610	2,609
Hampden.....	104,149	183,713	81,571
Hampshire.....	47,282	51,829	4,627
Middlesex.....	317,880	431,167	113,287
Nantucket.....	8,727	8,268	* 459
Norfolk.....	96,507	118,950	22,448
Plymouth.....	74,018	92,700	18,682
Suffolk.....	387,927	484,780	96,858
Worcester.....	226,897	280,787	53,890
Total.....	1,783,085	2,238,943	455,858

* Decrease.

The population of the chief cities and towns of the State for 1890 is as follows: Boston 448,477, increase 85,638 in ten years; Worcester 84,655, increase 26,364; Lowell 77,696, increase 18,221; Fall River 74,398, increase 25,437; Cambridge 70,028, increase 17,359; Lynn 53,727, increase 17,453; Lawrence 44,654, increase 5,503; Springfield 44,179, increase 10,839; New Bedford 40,733, increase 13,888; Somerville 40,152, increase 15,219; Holyoke 35,637, increase 13,722; Salem 30,801, increase 3,238; Chelsea 27,909, increase 6,127; Haverhill 27,412, increase 8,940; Brockton 27,294, increase 13,686; Taunton 25,448, increase 4,235; Gloucester 24,651, increase 5,322; Newton 24,379, increase 7,384; Malden 23,031, increase 11,014; Fitchburg 22,037, increase 9,608; Waltham 18,707, increase 6,905;

Pittsfield 17,281, increase 3,917; Quincy 16,723, increase 6,153; North Adams 16,074, increase 5,883; Northampton 14,900, increase 2,818; Chicopee 14,050, increase 2,764; Newburyport 13,947, increase 409; Marlborough 13,805, increase 3,678; Woburn 13,499, increase 2,568; Brookline 12,103, increase 4,046; Medford 11,079, increase 3,506; Everett 11,008, increase 6,909; Weymouth 10,866, increase 296; Beverly 10,821, increase 2,365; Clinton 10,424, increase 2,395; Hyde Park 10,193, increase 3,105; Peabody 10,158, increase 1,130.

Finances.—The receipts and payments on account of revenue for the year were: Cash in the treasury Jan. 1, 1890, \$1,587,838.44; cash received during the year, \$11,381,720.82; total, \$12,969,559.26; payments during the year, \$11,481,502.07; cash in treasury Jan. 1, 1891, \$1,488,057.19. The estimated receipts for the year, exclusive of the direct tax, were \$3,461,868.24, and the actual receipts \$4,033,856.47. Adding to the latter sum the direct tax receipts, \$1,749,212.50, and the balance on Jan. 1, 1890, \$1,587,838.44, there is found to be a total actual revenue of \$7,370,907.41. The actual expenses for the year were \$5,774,591.60, as against \$6,027,991.60 in 1889.

The transactions on account of the several funds and trust deposits show the following aggregates for the year: Cash on hand Jan. 1, 1890, \$2,401,468.36; cash receipts during the year, \$13,253,352.33; total, \$15,654,820.69; payments on these accounts, \$10,372,635.11; cash on hand Jan. 1, 1891, \$5,282,185.58.

Public debt: Amount of debt Jan. 1, 1890, \$28,251,287.85; amount of debt Jan. 1, 1891, \$31,381,158.30; increase in 1890, \$3,129,870.45. The increase was caused by the issue of the armory loan, \$40,000; metropolitan sewerage loan, \$3,000,000; State House construction loan, \$600,000; total, \$3,640,000. There was a decrease by payments as follows: Troy and Greenfield Railroad bonds, \$505,129.55; coast-defense loan bonds, \$5,000—\$510,129.55; net increase as above, \$3,129,870.45. This statement shows the aggregate amount of State scrip now outstanding, but the actual debt of the Commonwealth is \$3,870,000 less than is named, viz., \$27,511,158.30. The deductions are made on account of the armory loan, \$870,000, issued in 1889 and 1890, which is to be paid from a sinking fund sustained and increased each year by the taxation of the cities in which armories are located; and the metropolitan sewerage loan, \$3,000,000, which will be paid by a sinking fund created by the taxation of several cities and towns.

The State now holds trust funds to the amount of \$8,042,197.93 and other funds of \$59,692.46, making this aggregate of resources: Sinking funds Dec. 31, 1890, \$21,568,960.37; trust funds Dec. 31, 1890, \$8,642,197.43; other funds, \$59,692.46; total funds, \$30,270,850.26; add market value above par, \$1,000,000; land, etc., pledged for the payment of the debt, \$7,000,000; grand total, \$38,270,850.26.

Valuations.—The total assessed valuation of property in the State for 1890 was \$2,154,134,626, personal estate being assessed at \$553,996,819, and real estate at \$1,600,137,807. The increase in the total assessment over 1889 was \$81,963,763. Included in the assessment were 4,491,

954 acres of land, 350,537 dwellings, 178,742 horses, 45,899 sheep, 263,207 neat cattle, and 42,160 swine. Personal estate in Suffolk County, which includes the city of Boston, was valued at \$204,961,135, and real estate at \$646,369,200. The following is the total valuation of the several counties: Barnstable, \$19,119,734; Berkshire, \$42,863,035; Bristol, \$134,054,787; Dukes, \$3,521,114; Essex, \$219,502,533; Franklin, \$20,021,645; Hampden, \$95,128,777; Hampshire, \$28,286,316; Middlesex, \$361,959,890; Nantucket, \$2,996,610; Norfolk, \$135,206,582; Plymouth, \$60,828,402; Suffolk, \$851,330,335; Worcester, \$179,314,866. For 1890 a total State tax of \$1,750,000 was levied upon this valuation.

County Debts.—The total indebtedness of Massachusetts counties in 1890 was \$4,008,660, an increase of \$2,637,447 in ten years. The bonded debt was \$3,016,000 and the floating debt \$902,660.

Legislative Session, Bribery Investigation.—The regular session of the Legislature began on Jan. 1, and was prolonged by reason of the bribery investigation until July 2, covering a period of 183 days, and being the longest session on record, with one exception. The most important measures discussed related to elevated railways in Boston and its vicinity. The promoters of the Meigs system of elevated railways obtained an act permitting the use of their system by any railroad or street railway company, all other systems being rejected. At the same time the West End Street Railway Company, owning all the street railways of Boston, presented a petition for authority to construct an elevated railway in connection with its surface tracks, to be run through the principal streets, and to connect by an inclined plane with the surface tracks in the suburb. A bill was reported in connection with the petition, and a prolonged debate ensued. In the course of this debate Representative George F. Williams, of Dedham, boldly declared to the House that the means adopted by the railway company to carry through its bill would not bear investigation, and that disclosures could be made effecting the integrity of at least one member of the Senate. Senator Fassett, whom rumor pointed out as the person alluded to, promptly demanded an investigation, and a committee of his colleagues was appointed for that purpose. At the same time the House appointed a similar committee to investigate the practices of the railway company generally with regard to this measure. Testimony was given before the Senate committee by persons connected with a project called the People's Elevated Railway Company, tending to show that Senator Fassett had solicited a bribe for himself and other Senators whom he claimed to control. This was denied by Senator Fassett, who testified that he had been, in effect, offered a bribe by an officer of the company, and had rejected the offer. The report of the committee discredited the testimony of the Senator's accusers and exonerated him from all blame. The House committee devoted much time to hearing the testimony of officers of the West End Company, its agents in the lobby, and others. A surprising ignorance was shown by the lobbyists regarding what they were hired to do, although their pay was extremely liberal. The findings

of this committee were reported to the House on July 1. They showed that the company had hired about 35 legislative counsel and lobbyists (being nearly all of the lobby) and expected to pay them about \$22,280 for their services in carrying through the bill; that it had invited the individual members of the Legislature to inspect its plant, and had thereafter entertained them at dinner at one of the clubs, where the merits of the bill were presented; that these and other expenses would bring the total outlay of the company up to about \$33,000; that the company had also paid a large sum to a rival company to prevent it from petitioning for a similar franchise; and that all these expenditures were unjustifiable. The committee, however, recognized the fact that there had long been a body of men, known as the lobby, which possessed influence over members of the Legislature, and that petitioners found it necessary to retain these men. In the view of the committee, this state of things could not be avoided, and it advised that the lobby should be recognized, but should be so regulated and defined that members of the Legislature might easily know each member thereof and the persons who employed him. To this end a bill was proposed by the committee providing that the sergeant-at-arms should keep two legislative dockets, one being a docket of legislative counsel before committees and the other a docket of legislative agents, or lobbyists; that in each docket should be entered, within one week after the date of employment, the name of any person, corporation, or association employing persons in either of the above capacities, the names of the persons so employed, and a specific description of the matters or bills to which their employment relates, and also the date of the beginning and end of such employment. No person except those docketed should be allowed to act before the Legislature in these capacities. Every person or corporation employing such persons should, within thirty days after the close of each session, file with the Secretary of State a sworn statement, showing in detail all expenses growing out of such employment. These statements and the dockets shall be open to public inspection. A fine of not less than \$100 nor more than \$1,000 may be imposed for violation of these provisions. This bill found favor with the legislators and was passed on the closing day of the session. The West End bill was also passed, in spite of the damaging developments of the investigation. It provides that the company may, under certain limitations, construct and maintain a system of elevated railroads in Boston and other towns and cities in which it is now authorized to run cars, and may connect such system with its surface roads at convenient places by inclined planes. For the purpose of estimating the damages to abutting property on the streets where the elevated tracks may be located, the Governor is authorized to appoint a commission, which shall hear the parties and assess the damages; but any person, if he prefers, may bring an action in the Superior Court and have his damages assessed by a jury. The railway company may use electricity or any other motive power approved by the railroad commissioners. At least three miles of elevated track must be constructed within four

years from the first day of July, in order that the franchise shall be retained. The rates of fare shall not exceed those now charged. The company may issue its common stock to an amount sufficient to pay all expenses connected with the construction and equipment of the road. An important act in the interest of labor makes nine hours a day's work for laborers and mechanics employed by the State or by any town or city. A revision and codification of all the election laws was reported and passed. The Australian ballot was also extended to towns by a permissive bill. The city of Boston was authorized to borrow \$550,000 outside of its debt limit, and to issue bonds therefor, the proceeds to be used in building and furnishing school-houses. The boundary line between the State and New Hampshire, agreed upon by joint commissioners of the two States in 1888, was ratified and adopted. Two amendments to the State Constitution proposed by the Legislature of 1889—the first providing that soldiers and sailors shall not be disqualified from voting on account of having received aid from any city or town, or because of non-payment of the poll tax; the second providing that no person shall be disqualified from voting by reason of change of residence within the Commonwealth—were again adopted this year, and provision was made for their submission to the people at the November election. A third amendment, proposed in 1889, for the disfranchisement of certain criminals, was not agreed to. Three new amendments were proposed for the first time—one abolishing the poll tax as a prerequisite for voting; another providing for biennial elections for Governor and other executive officers and members of the Legislature; the third, providing that a majority of the members of each branch of the Legislature shall constitute a quorum for the transaction of business, but a less number may adjourn from day to day and compel the attendance of absent members. Other acts of the session were as follow:

Exempting from taxation the capital stock, corporate franchises, and personal estate of co-operative banks, but not exempting their real estate.

To unite the city of Springfield and the town of West Springfield.

Prohibiting the employment of any person under fifteen years of age in the care, custody, management, or operation of any elevator, and of any person under eighteen years of age on any elevator that runs at a speed of over 900 feet a minute.

Providing that the Governor shall appoint a commission of three persons with power to take measures for checking the spread of the gypsy moth and for its extermination, and appropriating \$25,000 therefor.

To prohibit the counterfeiting of the labels, stamps, and trade-marks of labor and trade associations.

Requiring that in all public schools the last regular session prior to Memorial Day, or a portion thereof, shall be devoted to patriotic exercises.

Creating an art commission for the city of Boston, and providing that no statue, fountain, ornamental arch or gateway, or memorial of any kind shall be erected in public places in said city, unless the design and site are approved by commission.

Authorizing persons aggrieved by the assessments made by assessors of taxes to appeal either to the county commissioners or to the Superior Courts, and providing for the speedy trial of such cases in the courts without a jury.

To prevent the transfer of property by a debtor pending poor debtor proceedings.

Requiring more detailed reports of county treasurers, and providing for their publication and distribution.

Providing that the State Treasurer shall cease to be tax commissioner, and that a tax commissioner shall be appointed by the Governor for a term of three years.

Authorizing employes of street railway companies to unite with such companies in establishing relief societies.

To prohibit the employment of women and minors in manufacturing establishments between the hours of ten at night and six in the morning.

To provide for the incorporation of the cities of Chicopee and Marlborough.

Imposing an excise tax of 2 per cent. on premiums collected in the State by foreign accident, fidelity, and guarantee insurance companies.

Appropriating \$50,000 to secure the proper representation of the State at the national encampment of the Grand Army in Boston during the year.

Requiring all co-operative banks to become incorporated and permitting foreign co-operative banks to do business in the State under certain restrictions.

Providing that all convicts now or hereafter imprisoned for felony shall be registered and measured and described according to the Bertillon method for identification of criminals.

To provide for registering with the city or town clerk the pedigree of horses used for breeding.

Creating a State board of library commissioners, and authorizing it to advise with local library trustees and to purchase for any town not having a public library, which complies with this act, books to a value of not over \$100.

Providing a penalty for writing, printing, posting, or distributing anonymous circulars or posters designed to injure or defeat a candidate for nomination or election, by reflecting on his personal character or political actions.

Increasing the length of attendance required at public schools from twenty to thirty weeks.

Regulating assessment insurance.

Revising and codifying the election laws of the State.

Authorizing the extermination of English sparrows by town and city authorities, provided that poison shall not be used in such destruction.

Authorizing commissioners to purchase land and procure plans for an asylum for chronic insane in the eastern part of the State.

Prohibiting the employment of persons under eighteen years of age in liquor saloons.

To prevent and punish fraud in sales of goods, wares, and merchandise by itinerant vendors.

Authorizing cities and towns to furnish relief to soldiers and sailors and their widows and minor children, without requiring them to enter almshouses and public institutions.

Regulating the sales of goods taken into a city or town to be sold by auction.

Education.—The following public-school statistics cover the school year 1889-'90: Number of children between five and fifteen years, 370,116; number of all ages in the schools during the year, 371,492; average attendance, 273,910; teachers employed—men 1,017, women 9,307; average monthly wages of male teachers, \$126.58; female teachers, \$44.79; number of public schools, 7,147; average length of school year in months, 8.85. During the year 241 high schools were maintained, with 25,317 pupils in attendance, an increase of 5 schools and 1,181 pupils. Evening schools, to the number of 201, were supported in 52 cities and towns. The number of teachers employed therein was 978, the total number of pupils enrolled 24,820, and the aver-

age attendance 13,972. The whole amount of money raised by taxation for the support of public schools, including only wages of teachers, fuel, and care of fires and school rooms, was \$5,524,882.65, an increase of \$158,277.36 for the year. The amount expended for new school-houses was \$1,104,937.30. The expenditures for the schools, exclusive of the sum paid for repairing and erecting school-houses, was \$6,415,444.51, or \$17.33 for each child of school age. The total expenditures, including repairs in new school houses, aggregated \$8,286,062.30, or \$22.38 for each child of school age.

During the year 511 private schools and academies, having in attendance 58,179 pupils, were in operation. The ratio of gain in these private schools and academies is much greater than in the public schools.

The attendance at the 6 State normal schools for the year aggregated 1,291, a decrease of 61 from last year. This decrease is not sufficient to indicate a serious decline of interest in the schools. The demand for normal graduates has been greater than the supply.

Charities.—The following is a summarized statement of the condition of the State charitable institutions: Danvers Lunatic Hospital, patients on Oct. 1, 1889, 759; admitted during the year ensuing, 386; discharged, 332; remaining Sept. 30, 1890, 813; total expenses, \$152,949.06. Northampton Lunatic Hospital, patients on Oct. 1, 1889, 446; admitted, 170; discharged, 121; remaining Sept. 30, 1890, 495; total expenses, \$86,153.29. Westborough Insane Hospital, patients on Oct. 1, 1889, 508; admitted, 310; discharged, 305; remaining on Sept. 30, 1890, 508; total expenses, \$101,554.86. Taunton Lunatic Hospital, patients on Oct. 1, 1889, 617; admitted, 331; discharged, 269; remaining on Sept. 30, 1890, 679; total expenses, \$110,984.95. Worcester Lunatic Hospital, patients on Oct. 1, 1889, 811; admitted, 436; discharged, 462; remaining on Sept. 30, 1890, 785; total expenses, \$175,811.65. Worcester Insane Asylum, patients on Oct. 1, 1889, 383; admitted, 45; discharged, 129; remaining on Sept. 30, 1890, 299; total expenses, \$76,366.10. State Almshouse at Tewksbury, insane department, patients on Oct. 1, 1889, 364; admitted, 48; discharged, 48; remaining on Sept. 30, 1890, 364. Almshouse department proper, inmates on Oct. 1, 1890, 841; admitted, 2,436; discharged, 2,470; remaining on Sept. 30, 1890, 807. State Farm at Bridgewater, inmates on Oct. 1, 1889, 438; admitted, 694; discharged, 587; remaining Sept. 30, 1890, 545 (of the latter number 148 are insane persons); total expenses, \$62,577.66.

At the Perkins Institution for the Blind there were 201 pupils on Sept. 30. The total receipts for the year, including a balance of \$62,246.79, were £193,471.51, and the expenditures and investments \$133,056.16, leaving a new balance of \$60,415.35. A large number of deaf and dumb and feeble-minded youth are supported by the State at institutions within and without its borders. There are 218 almshouses in the State, 4 new ones having been established during the year, while 2 have been burned and several discontinued. On April 1, 1890, these establishments contained 4,582 inmates, of which number 733 were said to be insane.

Soldiers' Home.—An addition to the Soldiers' Home, at Chelsea, was completed and dedicated June 7, giving, with the previous structure, accommodations for nearly 300 beneficiaries. It is being rapidly filled, there being at the end of this year 233 inmates in the home and hospital. The treasurer reports the entire receipts for the past year \$82,712.87, and the expenditures for the same period \$95,247.36.

Prisons.—The average number of prisoners in the State Prison during the year ending Sept. 30, was 596; in the Massachusetts Reformatory, 681; and in the Reformatory Prison for Women, 219. At the close of the year there were 580 remaining at the State Prison, 733 in the Massachusetts Reformatory, and more than 200 in the Reformatory Prison for Women. The State Prison at Boston and the Massachusetts Reformatory at Concord are the only institutions in which the prisoners have been employed. The results shown during the year to Dec. 31, are as follow: Receipts from industries, \$196,187.16; expenses of the business, \$182,313.37; salary of general superintendent and other expenses for the work, \$6,153.38; total, \$188,466.75; excess of receipts, \$7,720.41. In 1889 the excess of receipts was \$24,396.80.

Licenses.—The license vote in the cities and towns in 1890, with other statistics relating thereto, is shown in the following table:

COUNTIES.	VOTE.		Licenses granted.	Re-voked.	Amount received for licenses.
	Yes.	No.			
Barnstable...	877	1,027	5	..	\$503 00
Berkshire...	4,957	2,694	180	..	78,998 00
Bristol.....	10,233	7,118	197	1	80,587 00
Dukes.....	6	180	8	..	3 00
Essex.....	18,048	15,115	442	1	238,631 50
Franklin...	1,229	1,491	51	..	19,067 00
Hampden...	7,577	5,651	191	..	185,472 00
Hampshire...	4,882	6,070	53	8	25,767 00
Middlesex...	22,996	23,629	257	2	57,445 00
Nantucket...	166	124	8	..	651 00
Norfolk.....	4,099	6,134	56	..	10,689 00
Plymouth...	3,066	5,194	36	..	10,712 00
Suffolk.....	81,005	15,363	1,771	4	1,055,721 00
Worcester...	16,132	15,168	160	1	67,766 00
Total.....	125,494	105,958	3,678	12	\$1,779,957 50

Of the 28 cities, 20 voted for license, and 8 against it. Of 321 towns voting, 65 voted for license and 253 against it. In 1889 the majority was 5,656 against license in a total of 223,444.

Banks.—During the year 2 savings banks, 10 co-operative banks, and 2 trust companies have begun business, making a total of 179 savings banks, with assets of \$372,476,568.41; 15 trust companies, with assets of \$75,271,807.33; 103 co-operative banks, with assets of \$9,264,833.34; 2 collateral loan companies, with assets of \$362,301.49; 2 mortgage loan companies, with assets of \$1,959,549.05; total, 301 institutions, with assets of \$459,335,059.62—an increase in number of 14 institutions, and in assets of \$31,778,755.81. The savings banks show for the year 1,083,817 open accounts, with total deposits amounting to \$553,592,937.24—an increase of 54,123 in the number of open accounts and \$20,869,248.65 in the amount of deposits.

Political.—The political canvass was opened by the Prohibitionists, who in State convention at Worcester, on Sept. 10, nominated the follow-

ing ticket: For Governor, John Blackmer; Lieutenant-Governor, George Kempton; Secretary of State, George D. Crittenden; Treasurer, William H. Gleeson; Auditor, Augustus R. Smith; Attorney-General, Wolcott Hamlin. The usual resolutions in support of prohibition were adopted. Woman suffrage, civil-service reform, arbitration as a means for settling international disputes, and Government aid to education were favored. The following declarations touch upon local issues:

Resolved, That the aggressions upon the integrity of our public schools imperatively demand the most watchful resistance. Not a dollar of the public money, however strenuously sought, should be perverted to sectarian ends, nor should these schools ever be committed to the care of their enemies.

Resolved, That we deplore the rank growth of the lobby system and the accompaniment of bribery in the congenial soil of politics without principle. That the recent startling developments in the West End Railway investigation show that the leaders of both the Republican and Democratic parties are so complicated with corrupt corporations that no reform can be expected, except from a whirlwind of popular indignation which shall sweep them away forever.

The Republican State Convention was held in Boston on Sept. 17. Gov. Brackett, Lieut.-Gov. Haile, and Treasurer Marden were renominated. For Secretary of State the convention selected William M. Olin; for Auditor, J. Henry Gould; and for Attorney-General, Albert E. Pillsbury. The following are the resolutions that touch upon local issues:

We renew the assertion of our fidelity to the principles of temperance, and our determination, in the future, as in the past, to favor, not only all moral agencies, but also the most effective legislation to suppress the dram shop and saloon, and to restrict and exterminate, so far as legal provisions, faithfully enforced, can possibly do it, the blighting curse of drink.

We profess unalterable devotion to the cause of public schools, which must be preserved in their integrity and at the highest standard of efficiency, and can point to a long series of legislative acts, including the present year, evincing the sincerity of our professions.

We reaffirm the principles expressed in former platforms of the party in respect to the duty of the Government, so far as possible, to ameliorate and dignify the condition of the laboring people by a judicious abridgment of the hours of labor, and claim that the statute book of this Commonwealth will prove that the party has always manifested an honest purpose to advance in that direction, with no halting or uncertain steps.

We heartily commend the wisdom of the law enacted the present year, designed to expose to the clear light of publicity every external agency standing between the people and the Legislature and employed to advance special legislation, and we will favor any further enactment which may be found needful to restrain the improper expenditure of money in connection with such legislation, and to reduce and abolish, so far as possible, the real or pretended influence of professional and amateur lobbyists.

On Sept. 18 the Democratic State Convention met at Worcester and nominated the following candidates: For Governor, William E. Russell; Lieutenant-Governor, John W. Corcoran; Secretary of State, Elbridge Cushman; Treasurer, William Q. T. Trefry; Auditor, Edwin L. Munn; Attorney-General, Elisha B. Maynard. The platform treats of State issues as follows:

We believe that the State should establish a standard eight-hour day for State and municipal employes engaged in manual labor.

We favor further legislation for limiting the hours of labor of women and children employed in mercantile and manufacturing establishments.

We renew our demand of last year for legislation for securing the publication and limitation of campaign expenses.

We believe in the progressive development of our public-school system, and that ampler means than are now afforded should be provided for the public education of the children of all classes of our citizens in all parts of the State; that, while the opportunities for obtaining higher education at the public expense should not be curtailed, yet, as these are for the benefit of the few, and are not of service to the many, we believe that a large part of the school fund should be employed in giving industrial instruction and technical training to the hundreds of thousands of children who can not attend the high schools.

We welcome the passage by the Legislature of this year of the amendment to the Constitution abolishing the tax qualification upon the franchise.

We believe that the time has come when cities and towns should be entrusted with larger powers of home rule in matters of taxation and municipal administration, and we commend to the consideration of the coming Legislature the expediency of authorizing cities and towns, under proper conditions, to exercise those wider functions which municipalities in other States and countries have found desirable, as well as the expediency of authorizing towns and cities to exact compensation from corporations enjoying public franchises, where this can be done without injustice to vested rights or detriment to the public interest.

A few weeks after the Republican nominations were made charges were made affecting the integrity of J. Henry Gould, the Republican candidate for Auditor, in consequence of which he was induced to withdraw from the ticket, and the name of Charles R. Ladd, the present Auditor, was substituted therefor. Mr. Gould was able to disprove these charges soon after his withdrawal, and many of his friends became dissatisfied at the manner in which he had been forced from the ticket. They refused to support Mr. Ladd, and their defection gave the election to Mr. Trefry, the Democratic candidate. National issues were the chief topics of discussion in the canvass. For Governor the vote was: Russell, 140,507; Brackett, 131,454; Blackmer, 13,554. For Lieutenant-Governor, Haile received 137,160 votes; Corcoran, 130,630; Kempton, 11,770. The Republican plurality for Secretary of State was 6,468 votes; for Treasurer, 9,849; for Attorney-General, 8,239. The Democratic plurality for Auditor was 7,921. Members of the Legislature were chosen at the same election, as follow: Senate, Republicans 20, Democrats 20; House, Republicans 139, Democrats 98, Independent 1, and Prohibitionist 1. Two amendments to the State Constitution were adopted at the same election. The amendment to prevent the disfranchisement of voters by reason of a change of residence within the Commonwealth received 97,177 affirmative and 44,686 negative votes. The amendment relative to the exercise of the right of franchise by soldiers and sailors received 100,109 votes in its favor to 27,021 votes against it.

The election for members of Congress resulted in the loss by the Republicans of five districts out of the eight that were previously held by that party.

METALLURGY. Iron and Steel.—The problem of separating iron ore from impurities in what are called wash ores has presented difficulties that have never been successfully overcome. Mr. Clemens Jones, in the course of some experiments, when rapidly drying limonite over a Bunsen flame, found that the ore was magnetized. Experimenting, with other ores, he found that their particles were so strongly affected as to permit their complete separation by means of a magnet. The magnetization appears to be permanent, having been found unimpaired in specimens that had been kept a year. The effect is produced when the ore, placed in a convenient receptacle, is roasted by the usual process, with either solid or gaseous fuel. It is undesirable to use much heat, since magnetization is fully imparted at a cherry-red temperature. The ore is drawn as fast as it reaches this temperature, and is at once ready for magnetic separation. It is logically deduced that all hydrous ores of iron become magnetic in the blast furnace, and that at the proper zone even anhydrous hematite—with which no magnetic effects could be obtained in the experiments—does so.

While the carbonization of iron by means of the diamond is not a new experiment, Prof. Roberts-Austen is believed to be the first who has performed the operation in a vacuum, with iron which has been previously heated in a vacuum to deprive it of its occluded gas. These experiments are of interest in view of the assertions made by some chemists that no two elements can react upon each other unless a third element be present. The author believes that a mere trace of the additional element is sufficient to insure combination, for in his experiments carbon and iron in their purest obtainable forms were used, "and the only additional matter that could have been present was the trace of occluded gas which the iron may possibly have retained." Prof. Roberts-Austen is satisfied that combination does not take place till a full red heat is reached.

Mr. Thomas Andrews has described experiments made to determine whether the coefficients of heat dilatation in iron and steel become gradually less as the temperature is lowered below 0° C. An affirmative answer was obtained, which Prof. P. G. Tate had remarked, in his work on "Heat," was probable. The coefficients of dilatation were found to be greater in the soft steels than in the hard, which may be accounted for by the percentage of combined carbon, as shown in the analyses which the author publishes, being much lower in the soft than in the hard steels, and the percentage of pure iron being consequently greater. The author's figures show also that the cylinders of metal, especially the hammered steels and wrought iron, generally expanded more lengthwise than crosswise. Hence the inference that the crystalline particles of the metals suffer slight permanent alteration of form by rolling, sufficient to very slightly effect their relative longitudinal and transverse dilatations.

The desired percentage of carbon may be produced in working steel by stopping the process when that proportion is reached in the bath; or by decarbonizing the bath, and then adding the element in the form of spiegel, ferromanganese, etc. The methods of introducing carbon in these indirect ways left something

yet desirable, and means were sought of adding it directly in tar, petroleum, etc., and mixtures of those substances with solid bodies, such as burned dolomite. An efficient method of doing this has been applied by Mr. John Henry Darby, of the Brymbo Steel Works. He brought fluid steel into intimate contact with solid carbon, when the carbon was rapidly absorbed by the steel. Supported by this experiment, he founded on it his patented process by which fluid steel can be carbonized by filtration through pieces of carbon. By this process, in conjunction with the basic process, Mr. Darby produces from phosphoric raw material a steel, which, with any wished-for percentage of carbon to upward of 0.9 per cent., contains only small traces of other bodies, and is consequently distinguished from other open-hearth steel by its exceeding toughness. The process was soon exclusively employed at Brymbo for the harder steels, and was introduced into the Bessemer works of the Phoenix Company of Laar, near Ruhrort, on the Rhine, in 1889. Special advantages are claimed for this process by Mr. Thielen, managing director at Ruhrort, in each of the three methods for the production of steel—the Thomas, the Bessemer, and the open-hearth.

In a paper on the "Inspection of Materials of Construction in the United States," George H. Clapp and Alfred E. Hunt give a series of tables showing the changes in requirements that have taken place in the last ten years in engineers' specifications. These specifications indicate a tendency to give a decided preference to open-hearth steel, a gradual lowering of the requirements in tensile strength, and an increase in elongation and reduction of area. Tempering tests have been introduced in recent specifications, and steel that has been heated to a dull cherry red, and quenched in water at from 60° to 80° F., according to the different specifications, must bend 180° around a pin varying from one to two diameters without a sign of fracture.

The gradual substitution of steel for wrought iron for many purposes, notably for rails, plates, beams, and other structural shapes, has made it desirable and possible to cast and roll steel in very large masses as compared with the smaller piles that were worked and welded when wrought iron was used. Many advantages in economy are gained by making steel ingots as large as can easily be handled. Among the more important results of the increase in the size and weight of ingots are improvement in quality and the greater ease with which the product of any plant can be handled in and out of the pit when large ingots are used. A machine is described by S. T. Wellman which is intended to do all the work through the processes from taking the ingot from the car on which it comes from the converting house to depositing it on the table in front of the rolling mill. All the valves controlling the movements of the machine, as well as operating to open the furnace doors, are worked by one operator, who rides on the machine.

The conclusions of Mr. C. B. Dudley, drawn from his investigations of the wearing qualities of steel rails in service, and communicated to the American Institute of Mining Engineers, in 1878 and 1881, were that a mild steel is less

liable to fracture, and, if properly made, less liable to crushing or disintegration in the track than a harder steel; and that the wearing power of steel in rails does not increase, but diminishes, as hardness increases. Criticising his work after the lapse of ten years, he concludes that if he had it to do over again he would determine the sulphur in the rails; that in view of the better understanding of the influence of that element the silicon limit would be raised somewhat; that the influence of chemical composition was made more and that of the method of manufacture less prominent than the facts would warrant; and that the comparative method, rather than an absolute one, should be used as far as possible in determining the difference between good and poor rails. Otherwise than as regards these criticisms, the author sees no reason to change his original main conclusion—that mild steel is safer for rails and for other constructive purposes, and also gives better wear, or loses less metal under the same traffic, than harder steel. Experiments are now making on the wear of steel tires. A large number of experiments have been made with alloys used as bearing metals, from which instructive information may be drawn as to the relation between wear and the chemical and physical properties of metal. From all the experiments the author deduces that that metal which will suffer the most distortion without rupture will wear best; that an increase in tensile strength will add to the wearing power of the metal; and that, of two metals which have the same tensile strength and the same elongation, the one which is finer in granular structure will wear the slower. The relation and interaction of these three variables is an unknown field. The best that can be said at present is that, with the light we have, the highest tensile strength, accompanied by the highest elongation and the finest granular structure, are the physical properties which will probably give the best results in actual service when the metal is subjected to wear, and that that chemistry which will give these results in the finished product, whether in alloys, in steel, or in aluminum, is the best.

In his paper on "Steel Rails," considered chemically and mechanically, read at the meeting of the Institute of Mechanical Engineers in Sheffield, England, Mr. C. P. Sandberg attributed the greater durability of the first Bessemer rails made in Sheffield to the hammered blooms and slow-running mills of early days. Hardness is no doubt a virtue in railway lines, and may be obtained by work; but it can also be obtained chemically. By the latter means, however, other desirable features may be put in jeopardy. In respect to silicon, a different composition was required for steel that was to be used in bridge and ship work from what went into that intended for rails. In the discussion on mechanical tests which followed the reading of the paper, tensile tests were pronounced undesirable, because costly and of little or no use. The falling-weight test and a test for hardness, together with such light as might be thrown by chemical analysis, were considered sufficient. The tables presented by Mr. Sandberg showed that 0.24 per cent. of silicon in steel rails gave the best results.

One of the most interesting developments in

metallurgical art by the Compagnie Anonyme des Forges de Chatillon et Commentry as illustrated by their exhibit in the Paris Exhibition of 1889, is the process of tempering steel in molten lead. In the tests of armor plates prepared by this method resistance to penetration and stiffness were increased without any resulting brittleness in the metal. With pieces in soft metal merely cast it was possible to obtain a resistance equal to that of forged pieces. Other tests were made to determine the influence of the process of immersion on metal, independent of the ultimate use; they were made on five kinds of steel—carbon, silicon, manganese, chrome, and cement steel. The results are thus summarized by M. Evard: By the lead-tempering process, a mean increase of 20 per cent. in the limit of elasticity may be counted upon; also an increase of 18 per cent. in the tensile strength. These increases are more pronounced in carbon steels than in any other. The minimum increase was found in the silicon-steel series. The diminution of elongation was greatest in steel high in manganese; it was least perceptible in chrome steel. In shock tests, the stiffness was increased without rendering the metal more brittle.

The force required to rupture a steel bar by longitudinal stress—computed by comparing the load on the specimen at the moment of breaking with the contracted area at the fracture—is called by Mr. C. A. Carus-Wilson the "true tensile strength" of the material. It is lowered by any disturbance in the uniformity of distribution of the stress. The tensile strength of a cylindrical bar is lowered by grooving the bar in proportion to the acuteness of the angle of the groove. But a plain, ungrooved bar is not always the strongest, except as compared with a bar in which the groove is cut with a sharp angle; and the grooved bar is considerably the stronger, notwithstanding the interruption to the uniformity of the stress, if the groove is semicircular. The addition of material to effect a gradual change of section above and below a given section, while it can not increase its resistance to direct tensile stress, may increase the resistance to a shearing. The resistance of a bar does not then depend on its section at right angles to its axis, but on its section at 45° to the axis, for in that direction the shearing stress is at a maximum. Hence, apparently, the resistance overcome at rupture is the resistance to shear; and this seems to be confirmed by experiment. With a uniform distribution of stress near the ruptured section the fracture is at 45° to the axis, the bar having sheared along that plane which is a plane of least resistance to shear. The tendency to rupture along a plane of shear may be marked by a non-uniform distribution of stress.

Nickel.—The experiments of Mr. James Riley and other persons with nickel iron and nickel steel and their results, showing that the addition of nickel to iron and steel had the effects of diminishing their oxidation and improving the limit of elasticity and the tensile strength, were mentioned in the "Annual Cyclopaedia" for 1889. Manufacturers have begun to take advantage of these qualities, and the development of a nickel-steel industry is promised. The valuable qualities of natural meteoric iron have long been known, and many persons have in the past ex-

pressed the opinion that those properties were due to the nickel contained in it. As early as 1853, according to a paper by Mr. J. T. Donald, nickeliferous iron ores from Marquette, Mich., were found to produce iron possessing unusual toughness, a very white color, and a diminished liability to oxidation. In 1888 patents were taken out in England and France by different persons for the preparation of nickel steel. Tests of this alloy have been made by competent experimenters with results establishing its excellence, among which may be mentioned the following: A steel containing 4.7 per cent. nickel showed an ultimate strength of 80 per cent. and an elastic limit of from 60 to 70 per cent. higher than those of mild steel of nearly equal ductility; and to this the valuable quality was added of less liability to corrosion. Sir Frederick Abel said in his presidential address before the British Association: "It has been shown by Riley that a particular variety of nickel steel presents to the engineer the means of nearly doubling boiler pressure without increasing weight or dimensions." Some persons have expressed doubts whether faith in the excellence of nickel steel will be maintained; but they are answered for the present by the greatly increased demand which has sprung up among steel makers for ferro-nickel to be used in making the alloy. The results of the tests made at Annapolis, Md., in September, 1890, of the resisting power of armor plates go far toward establishing the superiority of the nickel-steel alloy for such defensive work. The strength of the nickel-steel plate was such that, though it was penetrated by the shots, no cracks were developed in it; while the all-steel plate was split into quarters. The Cammell compound plate, made of an alloy containing less than 4 per cent. of nickel, was very much broken.

The results of experiments by Herr T. Fleitmann on the nature of the welding of iron and nickel mark as the conditions necessary to obtain perfect welding perfect metallic contact of the two surfaces and a considerable difference of temperature between the point of fusion and that of plastic softness. The prejudicial effect of combined and alloyed foreign substances is due to their action in either diminishing the softness or sensibly lowering the welding point of the metal. The welding capability of nickel is largely increased by an addition of magnesium, which removes combined oxygen and carbonic oxide, and raises the melting point about 100° C. The so-called welding mediums serve either to clean the surfaces or prevent their oxidation when heated, and are of no further utility. They may be dispensed with when the surfaces are clean, and other methods are adopted to exclude air.

The studies of J. A. Ewing and G. C. Cowan of the magnetic qualities of nickel tend to confirm and extend Sir William Thomson's observation that longitudinal pull diminishes magnetism in the metal. The effects of stress are much less complex than in iron, and cyclic variations of stress are attended by much less hysteresis.

Mr. F. J. Hall, referring to his applications of nickel steel to gun barrels, propeller blades, and other purposes, observes that in a certain experiment he obtained with nickel steel a tensile strength of 97 tons per square inch, with an elongation of 7 per cent.

Aluminum.—Among the applications mentioned by Prof. W. P. Blake as having been made of aluminum in the construction of portable instruments of precision are sextants made in New York, which have so far proved satisfactory; a mining transit made in Washington; and a double reflecting and repeating circle made in New York for use on a boat and to be held in the hand, weighing, exclusive of the eyepieces and the handle, only one pound, or about one third as much as an ordinary sextant. The circle is about 9 inches in diameter and cast in one piece. The casting is homogeneous and free from blow holes, and dresses up clean and sharp. The metal works well under the file, in the lathe, and under the graduating tool. Every part has also the requisite rigidity under the touch. The drawbacks to the use of aluminum are that by reason of its soft and "spongy" character it is apt to tear under the tool, and that it does not give clean threads. The former difficulty is remedied by adding a small quantity of silver, which increases the hardness considerably; the latter by a careful use of the tap and die.

The Maussier aluminum process, which is being introduced in France, comprises three stages—desilicification, reduction, and liquation. Desilicification is effected by fluorine or fluoride of calcium in the presence of carbon, at a high temperature. Lime, or carbonate of sodium or potassium, may be added to facilitate the process. Reduction is obtained by means of iron and manganese heated to incandescence in the presence of carbon. Liquation, or separation of the aluminum from the iron and manganese, is obtained by dropping the molten mass into carbon ingot molds.

In the electrolytic process of W. Diehl, of Berlin, a bath is prepared of the fluorides of alkali metals, or the compound fluorides of the alkali metals and anhydrous alum, a sulphate of an alkali, and chloride of sodium. The substances are melted together, allowed to cool down, ground, and washed in water for removal of traces of sulphur. The fluoride thus formed will consist of aluminum fluoride and an alkaline fluoride. It is melted with an alkaline chloride and fluor-spar, and while in a molten state the mass is submitted to the electric current, when aluminum is collected at the negative pole, and chlorine is liberated at the positive pole. The alkaline fluoride which is formed may be melted with anhydrous alum or with a solution of nitrate of aluminum to form another double fluoride to which electrolysis may be applied.

In Dr. Netto's process, which has been at work on the Tyne, cryolite is fused with salt, and sodium is added to the resultant product, when sodium fluoride and metallic aluminum are obtained. The sodium used in this process is obtained by a method—allowing melted caustic soda to flow gradually into charcoal contained in a cast-iron retort heated to dull redness—which requires a less high temperature than is necessary in the Castner process.

Graham's method is based upon the reduction, by sodium, of fluoride of aluminum. The latter substance is produced by the action of sulphate of alumina on fluor-spar and cryolite; but the cryolite need be used only at the beginning of the operation, for it is reproduced afterward as a consequence of the reduction of the fluoride of

aluminum. Under these conditions it is purer than the natural mineral.

Alfred E. Hunt, James W. Longley, and Charles M. Hall have been studying the effects of impurities on aluminum with the following results: At very high temperatures aluminum and sulphur combine to form a sulphide of the composition Al_4S_3 . Ordinary aluminum of commerce is free from sulphur. Lead is found as an accidental impurity in aluminum in proportions up to one quarter of 1 per cent. In small proportions it appears to have no appreciable action on the properties of the metal. In larger proportions lead does not alloy with aluminum, and no homogeneous alloy, or even mixture of the metals can be obtained. Antimony does not unite with aluminum to form any homogeneous alloy. Chromium unites with it readily, hardening it, and adds to its tensile strength. Tungsten unites with it, hardening it, but not giving any useful alloys. Platinum unites with it readily, but the alloys are brittle and unsound. According to Fissier, silver seems to be the most useful metal to improve aluminum. No very valuable alloys of tin and aluminum have been discovered. Tin added to aluminum makes it more brittle, and does not seem to give any useful properties in return; but small proportions of aluminum added to tin make it more elastic, without materially decreasing its malleability. Cadmium unites readily with aluminum, giving fusible alloys which are malleable; but it seems to impart weakness rather than strength. Bismuth forms with aluminum brittle, but very fusible alloys. Nickel unites with it, in any large proportions, to form brittle alloys; in small proportions, up to 3 per cent. of nickel, the effect is to harden aluminum without seriously decreasing its malleability or ductility. Zinc readily forms alloys with aluminum, which are brittle and highly crystalline. The best solder yet obtained for aluminum is the alloy of zinc with it, using Venetian turpentine as a flux. Unfortunately it will not flow well, and the soldered surfaces are not capable of withstanding hard usage.

Copper and Tin.—As described by M. L. de Launy, three methods of treating cuprififerous pyrites are pursued in the district of Huclva; those of natural cementation, artificial cementation, and artificial cementation with chlorides. The first of these methods is essentially one of atmospheric oxidation. The broken ore is spread out on floors in heaps varying from fifteen feet to forty feet in thickness. Water is distributed over the surface of the heaps, and the operation is continued for several years. Three million tons of ore are under treatment at a time. The sulphates formed by the joint action of air and water are dissolved in the water, and are collected in channels leading to the cementation tanks. These are filled with pig iron piled checker-wise, through which the coppery liquors are run in such a manner as to obtain the most complete precipitation with a minimum consumption of pig iron. The precipitated copper deposits on the surface of the pigs, and is cleaned off about once a month. The term artificial cementation is applied to the method in which the pyrites is burned in heaps previous to extraction by water and precipitation. In the process of artificial cementation with chlorides the copper

is dissolved, not as a sulphate, but as a chloride. This method has the advantage of reducing the waste of iron in the precipitation tanks, by avoiding the formation of ferrous and ferric sulphates. The produce of the mine is divided into five different classes, each of which has its own method of treatment.

It has been generally believed that there were no known deposits of tin ore in the United States that could be worked with profit. Those in the Black Hills, at King's Mountain, N. C., in Virginia, Georgia, and California had hitherto proved unremunerative. The mines at San Jacinto, Cal., have been sold to an English corporation, which is understood to be intending to develop them. The tin veins are found in the low, rolling hills of the San Jacinto mountains, the Gabilan hills, at an elevation of several hundred feet above the creek. The country rock is composed of syenitic granite, syenite, and slate; but the veins apparently extend only a short distance into the latter. They are of widths varying from 18 inches to 30 or more feet, while the widest one measured was found to be 24 paces, or say 60 feet in width. Along the distance of about three miles and a half from the most westerly to the most easterly vein more than seventy lines of croppings of as many apparently different veins have been found. They are practically identical in character—a sort of syenitic rock, which, in Cornwall is known as "tin capel," or "lode granite." Silver, gold, and nickel are said to be found also.

In B. Schultze's method for utilizing waste tin plate, the tin-plate scrap is collected into iron pails and immersed in wooden tubs containing an acid solution of ferric sulphate. The tin is dissolved, and the stripped iron remaining in the pail is clean enough to be at once transferred to the heating furnace. The solution of the tin in the acid ferric solution takes place as long as there remain any unreduced ferric salts in the liquor. After the reaction, the stannous and ferrous sulphates are associated with a considerable amount of free acid. It is necessary, therefore, before precipitating the tin, to neutralize the liquid, and this is effected by allowing it to remain in a vat containing metallic tin and iron rust. The neutralized solution is next run over clean iron scraps, when the tin is precipitated on the metal in a crystalline form. The liquors from this last operation are practically free from tin, and are allowed to concentrate, when crystals of ferrous sulphate separate which, on recrystallization, can be sold, or the liquor use in preparing the iron solution required in the stripping process.

A report made by Thomas Bolitho & Sons to "The Ironmonger" concerning a sample of tin stone from Dakota shows that 18 hundred-weight 10 pounds of black tin was obtained from 17 tons 15 hundred-weight 2 quarters and 12 pounds of ore, or, about 114 pounds, rather over 5 per cent, of black tin per ton of rock. The black tin assayed 70 per cent, for metallic tin. The actual yield of refined tin was 12 hundred-weight 1 quarter, 14 pounds.

Silver and Gold.—The treatment of silver ores of too low a grade to justify smelting or preliminary roasting, and yet not "free" enough to permit of raw amalgamation, has been a seri-

ous problem. The Combination Mining and Milling Company, Black Pine, Montana, deal with it by saving their slimes. These being too light to permit their being thoroughly settled, provision was made for pumping them into the tank whence water is supplied to the stamps. The immediate effect of turning this concentrated slime into the battery was to "salt" the battery sample, and it became important to find a means of determining the percentage of the salting. This was done. Other provision was made for stopping the loss of the escape from the settling tanks of water carrying rich slimes. During the year ending with May, 1889, the mill overran its assays 2.49 per cent., a result which may be safely credited to the use of slime water in the pans.

The principle on which a method of refining silver electrically is based consists in using in an ordinary electrolytic bath anodes of an argentiferous matte and a thin plate of pure silver as the cathode. The method is most suitable for refining auriferous silver containing about 11 per cent. of gold. The bath consists of a very weak solution of nitric acid.

The value of sulphur iron and copper as well as of lead in the concentration of silver and gold by smelting in blast furnaces is insisted upon by Mr. F. L. Bartlett. This author has been able in his own experience by the aid of a small percentage of copper to make a higher concentration of the silver and gold present than when the matte is made wholly of sulphide of iron. The ores most suitable for matte smelting in the blast furnace are those containing considerable iron or manganese, and the sulphur contents must be regulated by partial roasting when high, or by the addition of raw sulphurets when low, since the amount of sulphur present determines almost exactly the quantity of matte made. Mr. C. T. Torrance, who has reviewed and supplemented Mr. Bartlett's paper, expresses the belief that smelting is the cheapest as well as the most effective and perfect means for concentrating all ores that can be worked into a fluxing mixture. The conditions of working such a process are: An ore mixture that can be melted, the presence of a sufficient quantity of matte-forming material to separate from the slag, and the presence of an excess of sulphur—the most important condition.

Superior efficiency is claimed for the gold-extraction apparatus of Mr. T. Rowland Jordan, particularly in respect to the proportion of metal that can be extracted with it from the ore. The machine is of simple construction. Its rotation causes a series of heavy bars or mullers to roll continuously over an inclined plane. The material to be crushed is fed automatically on to this inclined plane, and the mullers roll over and reduce the particles to any required degree of fineness. The ore in the machine is continually washed over large surfaces of screens of the necessary mesh, so that the finely reduced material passes out of the machine, and the coarse particles return automatically to the crushing plane, where they are again acted on by the mullers. The amalgamator receives the gold-bearing sand direct from the reducer, and distributes the particles over a large area of the amalgamated surfaces. The mechanical action

of the machine insures an even distribution of the sand and prevents the possibility of any particle passing through without constant frictional contact with the mercurial surface. This feature prevents the finest float gold from escaping, and keeps the surfaces clean and active in dealing with the more refractory ores.

The chlorination process for the extraction of gold from its ores has been greatly improved within recent years, and now promises to be adapted to the treatment of low-grade, non-concentratable ores. The cost, relatively to the production, has been brought down till it compares favorably with the cost of the amalgamation process. Godshall recommends as a precipitant to throw the gold from the chlorine solution, precipitated sulphide of iron as far superior to the sulphate, which entails waste, or to any other precipitant in use. The gold solution is passed through a filter containing the sulphide, using two filters, one about ten feet below the other, and placing the tank containing the gold solution about ten feet above the upper one. For rapid filtration and complete action free chlorine should be absent from the gold solution, else the precipitation may be incomplete, with loss of gold; yet the solution should not be free from chlorine too long before precipitation, for the gold chloride might then decompose and the gold settle on the bottom of the tanks. The chlorine is expelled by heating. Copper sulphide and lead sulphide are also efficient precipitants; but iron sulphide is most convenient on account of the greater facility of separating gold from iron.

In Pollock's process for chlorination under hydraulic pressure, the ore, crushed, roasted when necessary for the removal of sulphur, and partially cooled, is placed in the chlorinating cylinders with about $1\frac{1}{2}$ per cent. of bleaching powder and 2 per cent. of niter cake. Hydraulic pressure is then applied, with more advantage if the air present in the cylinder is allowed to escape. The cylinder is then revolved. The niter cake reacts with the bleaching powder, liberating chlorine gas, all of which, in the absence of air, passes into solution, while the strong chlorinating liquid is driven by the pressure into the pores of the ore, all the gold of which is reached and converted into chloride.

The pyrites containing gold resulting from the concentration of free milling gold ores is usually treated by Plattner's process, which has been successfully practiced in Grass Valley, Cal., since 1858. Modifications of it have, from time to time, been suggested. Mears proposed to use chlorine gas under pressure of from 30 to 40 pounds to the square inch, made in a generator outside of the barrel and pumped into it, or produced inside of the barrel by the use of a great excess of chemicals; and while it was found that more gold was dissolved, the gain was more than compensated for by certain difficulties and wastes in the process. Mr. A. Thies, after four years' use of the Mears process, found that he could work without the pressure pumps as well as with them, and having introduced other modifications into the method, has perfected the barrel process, which is working successfully. Its success is owing, according to T. Egleston, in the "School of Mines Quarterly," to the formation of nascent

chlorine in contact with ore, which is constantly being rubbed bright by the friction of the particles against each other and against the sides in the revolving barrel.

Considerable loss is incurred in milling the gold of North Carolina on account of the fineness of the condition in which the metal occurs. It consequently escapes through the mills, according to Mr. B. F. Wilson, Jr., or, according to another explanation, is wholly dissolved in the mercury instead of being only coated or permeated by it, as happens in the case of coarser particles. This loss is obviated by using a solution of bichloride of mercury—a solution which has sufficient strength to act when diluted sixteen thousand times. Being in the liquid state, it permeates the ground-up particles of ore and amalgamates with the very fine particles of gold that might otherwise escape.

Alloys.—The Japanese have been successful in producing most varied and striking effects in texture and color in art metal work by the use of alloys, of which they have a wide range in composition. They have an alloy of silver and copper, sometimes with equal proportions of precious and base metal; varieties of copper of different degrees of purity; several kinds of brass; and a remarkable series of alloys in which precious metal replaces the tin and zinc of ordinary bronze. The principal alloys of the last class are *shaku-do* and *shibu-ichi*. *Shaku-do* contains about 95 per cent. of copper and 4 per cent. of gold; but the proportion of gold is variable, and silver and traces of other substances are sometimes found in it. It has been used for very large works. *Shibu-ichi* is composed of from about 50 to about 70 parts of copper and 30 to 50 parts of silver, with traces of gold and other substances. The feature of interest in these alloys is the sacrifice of the precious metals in order to produce definite results, gold and silver, when used pure, being employed sparingly to heighten the general effect. In *shaku-do* the gold appears to enable the metal to receive a beautiful rich purple coat or patina when treated with certain pickling solutions, while *shibu-ichi* possesses a peculiar silver-gray tint, to which the Japanese artists are very partial. There are several varieties of these alloys, and they are combined in various proportions. Thus, the composition of *kin-shibu-ichi* would correspond to one part of *shaku-do* rich in gold, and two parts of *shibu-ichi* rich in silver. The most commonly employed pickling solution is composed of 438 grains of verdigris and 292 grains of sulphate of copper in a gallon of water. When boiled in a solution (No. 111) composed of 220 grains of verdigris and 540 grains of sulphate of copper in a gallon of water, with a preparation of vinegar, pure copper turns a brownish red and *shaku-do* becomes purple. The effects of small quantities of impurity in the metal upon its color are strikingly exhibited in using the pickles. Copper containing a small quantity of antimony gives a different shade from that which results from the pickling of pure copper. Copper is often produced in Japan from the smelting of very complex ores, while the processes for purifying it are imperfect.

The recent progress of metallurgy in the United States, according to the "Engineering and

Mining Journal," has been largely in the direction of the production of aluminum and its alloys with iron, steel, and other metals. In Europe the progress has been less marked in connection with this metal, but there have been important developments in the ferro-nickel and nickel-steel alloys. The most important steps forward with regard to the improvements in the production of aluminum resulted in the reduction of the price of the pure metal to two dollars a pound with a corresponding lowering of price for the various alloys of iron, steel, and copper.

The results of certain tests of the effect of aluminum in carburetted iron, as described by Mr. W. J. Keep, of Detroit, at the May meeting of the Iron and Steel Institute, concern strength to resist weight and impact, deflection, set, elasticity for stresses applied, shrinkage for cast metals, hardness, and rigidity. They go to show that the effect of a proper quantity of aluminum on commercially pure iron is to produce a material, which is soft, easily bent, and flows readily. Aluminum diminishes deflection by decreasing the set and elasticity. In the opinion of the author iron considered as a structural material is improved in every way by the introduction of aluminum. Mr. James Riley said that he had tried the effect of aluminum in steel on a large scale, but had been disappointed in the results. There were advantages, but they were so slight as to be insufficient to pay for the additional expense of one or two pounds of aluminum to the ton of iron. Fluidity was gained, tensile strength was very slightly increased, the elastic limit was raised considerably, and ductility was increased. His views were seconded by Mr. Spencer, a large steel maker of Newburn.

Patents have been taken out by M. Henri Schneider, of the Creuzot Works, France, for a process for manufacturing alloys of iron and copper. He claims to have produced a steel containing from about 2 per cent. to 4 per cent. of copper, which has remarkable qualities of elasticity, strength, and malleability, as well as other useful alloys with different proportions of the constituents. The steels alloyed with copper are represented as being especially useful in the manufacture of ordnance, armor plates, gun barrels, projectiles, and for other military purposes, or in the manufacture of commercial sheets, bars, and the like. They may be obtained with varying amounts of carbon, manganese, or silica, or silicon, according to the degree of hardness required and the purpose for which they are employed.

A useful alloy of aluminum and tin has been compounded by M. Bourbouze by fusing together one hundred parts of aluminum with ten parts of tin. The alloy is paler than aluminum, and has a specific gravity of 2.85—that is, it is a little heavier than the pure metal, but not too heavy to be formed into parts of instruments intended to be very light. It is not so easily attacked by reagents as aluminum, can be worked more readily, and can be soldered as easily as bronze.

Processes.—Each of the three most commended methods of electro-plating with platinum—the Roseleur-Lanaux method, based on the electrolysis of a solution of the double phosphate of sodium and platinum; the process of

the Bright Platinum Plating Company of London, involving the introduction of substances like sodium chlorid and borax, to insure a bright deposit; and Boettger's method, founded on the electrolysis of a solution of the double chloride of ammonium and platinum in sodium citrate—will yield satisfactory results for a time, but are all liable to objections arising out of the difficulty of maintaining the chemical integrity of the electrolytes. To overcome these difficulties, Mr. William H. Wahl employs platinum hydroxide—which is readily soluble in alkalis and in many of the acids—for the purpose of maintaining the metallic strength of the plating bath. Of the salts that may be formed from platinum hydrate by solution in acids (and in part by suitable combination with the corresponding alkaline compounds to form double salts), the phosphates, oxalates, and acetates are named as useful, and as yielding practically valuable results in plating. With these double salts may be formed with soda, potassa, and ammonia. Prof. William L. Dudley, of Vanderbilt University, has independently worked out the problem of electro-plating with iridium, in a manner precisely analogous to that described by Mr. Wahl, with platinum. As described in a letter to the author, his bath may be composed of either the chloride (IrCl_3), the double chloride of iridium and sodium, or a double sulphate of iridium-ammonium. The latter was preferred.

Mr. A. Rollet's process for obtaining purified iron for castings consists in eliminating sulphur, phosphorus, and silicon. The pig is placed in a special cupola, and is kept at a very high temperature under a double action, slightly reducing and slightly oxidizing, in the presence of a slag obtained by the admixture of limestone and lime, iron ores, and fluor-spar. By the arrangement of the cupola the metal is separated from the slag as soon as they are removed from the action of the blast. In this way the phosphorus already eliminated is prevented from going back into the metal, and too great a recarbonization is avoided.

As a modification of Dr. Thomas M. Drown's rapid method for phosphorus, G. L. Norris heats to boiling a solution of pig iron or steel with nitric acid; adds potassium permanganate; boils till manganese peroxide is precipitated; adds tartaric acid for solution of all manganese peroxide; adds nitric acid; heats to 90°C ; adds ammonium molybdate solution; shakes; and proceeds with Emmerton's reduction of the yellow precipitate with zinc and titration, with standardized permanganate of potassium solution.

Experiments have been made with a view to recovering the waste pickle from galvanizing works. The waste liquor is boiled down to dryness, and the solid residue heated to redness. Oxide of iron remains in the furnace, while free hydrochloric acid distills off, is condensed, and can be used over and over again. The process has been proved by a working trial on a large scale to do away with the waste pickle, and even to yield a clear profit.

G. von Knorre separates iron from chromium, manganese, nickel, zinc, and aluminum, by precipitating quantitatively in faintly acid solutions of ferric salts with nitrosonaphthol. Small quan-

ties of ferrous oxide do not prevent the quantitative separation. The same author separates copper from lead, cadmium, magnesium, manganese, mercury, zinc, etc., the metals being present as sulphates or chlorides, by adding nitroso β naphthol dissolved in acetic acid.

The Merits process for preventing the oxidation of iron consists in placing the object near the anode in a bath of distilled water at 80°C , a plate of copper acting as cathode. The electrolysis forms a layer of magnetic oxide Fe_3O_4 , which preserves the iron against all further oxidation. Peroxide of lead can also be used. It gives a black, adhesive deposit by the electrolysis of an alkaline solution of litharge. In an analogous process, invented by Mr. Haswell, iron or steel is plunged as an anode in a bath containing from 0.5 to 5 per cent. of chloride or sulphate of manganese, and from 5 to 20 per cent. of nitrate of ammonia. The bath is electrolyzed cold with carbon cathodes. Feeble currents cover the iron with a deposit of peroxide of manganese, which adheres well, and is not subject to further oxidation.

In Francis J. Clames' process for coating sheet-iron plates with lead, the usual cleaning of the plates in an acid bath is followed by a supplemental one under the galvanic current and a bath in chloride of zinc. The plates are then immersed in melted lead, and sal ammoniac, arsenic, and phosphate of lead are added. The first ingredient seems to drive out absorbed gases that would form bubbles under the surface of the coating; the arsenic to give the coating a greater degree of hardness; and the phosphate of lead to increase the fluidity and permit an even distribution of the lead over the plates.

A favorable report has been made by a committee of the Franklin Institute upon the claim of Almer Thomas and Luzerne Merket, of North East, Pa., for having invented processes for casting pure copper without alloys, so as to make castings sound and free from blow holes; and for hardening copper (after casting) without destroying its fiber or impairing its usefulness for electrical or other purposes.

A method of extracting waste metals from refuse slag and *débris* of tin-smelting works, invented by J. Shears, of London, consists in reducing the ore or slag to a powder, fusing it in that state with any alkali, then dissolving the mass in boiling water. The peroxide of iron, with the nickel and cobalt, fall to the bottom and are separated by decantation. The tin is eliminated from the remaining liquid by passing an electric current through anodes immersed in it, and falls to the bottom of the vessel in a fine metallic powder.

Thomas Fletcher has found the processes of brazing and welding facilitated by the use of compressed oxygen, which can be obtained very cheaply, under Binn's method. The processes are performed very quickly, and the formation of magnetic oxide on the surfaces to be welded (which interferes with the success of the operation when coal gas and air are used) is avoided. The surface of iron heated by this means to welding heat comes out clean and free from scale.

Attempts at welding by the electric arc have not, according to Prof. Elihu Thomson, been satisfactory. But electric welding is successfully

performed when the heating effect of currents traversing a solid metal conductor is made gradually to bring the metal to the working temperature. In the easily fusible metals, this temperature is below a red heat, and the process is therefore unattended with glow, which, however, appears with more refractory metals. All metals so far tried have been welded by this method, with varying degrees of perfection. The form of the pieces to be tried is of little moment, provided they permit secure clamping for the passage of the current and for manipulation. The surfaces to be welded should be held in firm contact, while the heating may be regulated at will or automatically controlled. Lead, tin, and zinc are easily welded; antimony and bismuth present no great difficulties; aluminum demands special precautions that can be readily taken; manganese, oxidizable as it is, since it melts before it takes fire, is practicable. Brass and copper require stronger currents than iron of equal section, or other metals of less conductivity. Although with most metals joints can be obtained without the use of a flux, a flux is often desirable for good work. A valuable peculiarity of the electric process is its capacity to form joints even where the metals may be coated with oxides infusible at the temperature of fusion of the metals themselves. The current has a kind of explosive power to remove the metal sideways from the joint, and thus bring unoxidized, clean surfaces into contact at fusible temperatures. Soft iron behaves well under welding, and the process is easy and certain for all grades of steel. Machinery is constructed in which the process can be placed under automatic control. The method has been found valuable in a great variety of practical applications. In comparison with the results of ordinary welding by the blacksmith, electrically welded stock has usually shown a somewhat higher percentage of strength.

A new form of Siemens furnace, arranged to recover waste gases as well as waste heat, was described by Mr. John Head at the London meeting of the Iron and Steel Institute, in May. The chief peculiarity of its operation is the reconversion of the waste gases into combustible gases by being taken partly through an air regenerator and partly under the grate of the producer, so that they redistill the hydrocarbons from the coal—in fact, the gas producer utilizes the heat formerly deposited in the air regenerators. A steam jet is used for starting the action. The new form of furnace has been applied to the heating and welding of iron. It is to be used for puddling, and for copper and steel melting. Claims are made that it effects a saving in fuel of about two thirds the weight, a reduction in the weight of iron equal to 5 per cent., and a saving in labor and repairs.

METEOROLOGY. Temperature. — "A Study of Types of New England Weather," published by W. M. Davis in the "Observations of the New England Meteorological Society for 1889," has more particular reference to cyclonic variations of temperature. One of the most distinct signs of the approaching winter season is the growing frequency with which the regular diurnal variation is obliterated by the cyclonic variation. The usual rise from morning to early afternoon, and the fall from that hour till the

next morning, are more or less completely lost sight of as the cyclones grow in strength and in rapidity of movement. The obliteration consists in the continuous rise of temperature from one day to the next through the night, or, conversely, the continuous fall of temperature from one night to the next through the intervening day. The lowest temperatures are recorded during the winter anticyclones; and the records of adjacent hill and valley stations vary greatly, the lowest of nocturnal minima being always in the valleys, while the hills have less extreme cold; and on a commanding summit, like that of Mount Washington, the temperature is distinctly moderate. The anticyclonic days are the finest of the season, with an air dry and inspiring and a bearable cold, quite unlike the penetrating blast of the cold wave or the searching chill of the winter northeaster. These spells are brief. The approach of the cyclone is marked by a damp, sultry wind, under which the temperature gradually rises, particularly in the higher layers of the atmosphere. The winter snow and rain come chiefly from these winds in front of cyclones. The exact character of the weather is modified by the position of the track of the cyclone with reference to New England. If the track lies to the north, the precipitation is likely to be rain. When the center traverses New England, snow generally falls. An exceptional occurrence associated with the blowing of the warm wind before the cyclone is the occasional production of isolated high temperatures in the northern valleys of the White Mountains. The "ice storm" which sometimes attends the approach of a cyclonic rain after an anticyclonic cold spell is supposed to result from the rain formed in a warm upper stratum of air passing through a cold lower stratum, where it is cooled close to the freezing point. The rise in temperature preceding the cyclone is reversed to a rapid and steady decrease as the storm passes and brings up the westerly and northerly winds of its rear, and the cold wave is introduced. This being an active wind, its low temperatures are pretty uniformly felt on hills and in valleys. If there is any difference the hills are the colder. The change is sometimes accompanied by thunder storms. The quality of the change depends on a variety of conditions, which are summarized in the paper. It is at the periods of cold northwesterly winds on the lowlands that the upper wind is strongest and its cold most intense. With the coming of April and the general disappearance of snow in the interior and the warming of the ground under sunshine of increasing strength and length, the cold waves are warmed before reaching New England. A new feature characteristic of this change of season is the warm and often dry southwest wind; another highly characteristic feature is the increasing importance of the true diurnal range in clear weather, especially under anticyclones, and the high temperatures reached by the maxima at such times. The sea breeze is now first felt on the coast, and exerts a decided influence in lowering the diurnal temperature maximum; but it penetrates only a few miles inland. The spells of southerly winds become in midsummer the occasions of highest temperature. The cumulus clouds attain a greatly increased volume and height. Later in the warm season, fair

weather, with mountainous clouds floating in light winds and dissolving at night, may characterize a number of days in succession, imitating the orderly succession of events that prevails throughout the year in the torrid zone, where diurnal changes are the rule and cyclonic changes are the exception. Thunder-storms are commonly formed at such times as this.

A paper, by Dr R. J. Süring, on the "Vertical Decrease of Temperature with Height in Mountainous Districts, and its Dependence upon the Amount of Cloud," embodies the results of observations at mountain stations up to the height of about 4,100 feet. The author finds that in the morning, when the weather is clear, there is a constant tendency to an inversion of temperature. In summer this tendency extends to some 1,650 feet, and in winter considerably higher. The same condition recurs in the evening on a smaller scale. A departure from the law of direct proportional decrease of temperature with height occurs chiefly during the morning hours of clear days, the change of temperature then taking place more slowly in the lower strata of air than in the upper; and on cloudy days during the warm season, when in the lower strata the vertical decrease is accelerated.

Hourly observations on the nocturnal temperature of the air at different heights up to 24 feet, made by M. J. Juhlin, at Upsala, during the winters of 1887 and 1888, showed that the decrease of temperature by radiation from unprotected thermometers over snow remained almost constant at heights above half a metre. During clear nights the temperature increased with the height from two to three hours before sunset until two hours after sunrise, and the lower the temperature the greater was the increase. During cloudy or foggy nights the temperatures at different heights were nearly equal. The surface of the snow was colder than the surrounding air.

Observations on the summit of Pike's Peak, 14,134 feet above the sea—the highest meteorological station in the world—between January, 1874, and June, 1888, show that the maxima of both pressure and temperature occur in July, and the minima in January. The annual march of both elements is the same, and the two curves are almost coincident. The mean temperature for the whole period of the observations was 19.3° F.; the maximum observed was 64°, and the minimum —39°. The maximum daily range occurs in September (about 14.3°), and the minimum in December (11.6°, or only half of the range on the low plateau country to the eastward). Of the precipitation, 35 per cent. falls in the summer, and 33 per cent. in the spring, the maximum occurring in July and the minimum in February. The mean wind velocity decreases gradually from 26.6 miles per hour in January to 12.5 miles in July, and 12.3 in August, and it decreases from between two and four o'clock in the morning till between eleven o'clock and noon. The mean hourly velocity during any day rarely exceeds 50 miles. The prevalent direction of winds is from southwest to northwest. Electrical storms, though frequent, occur only when the air is moist.

It is calculated by M. Forel that the amount of heat accumulated in Lake Lemán during the summer of 1889 was equal to that which would

be afforded by the burning of 31,000,000 tons of coal. Most of this heat is dispersed in the atmosphere of the valley during the cold season, to make the falls and winters milder.

The climatological tables of the British Empire, published in Symond's "Monthly Meteorological Magazine," go to show that the extremes are monopolized year after year by the same stations. For the last five years Adelaide, South Australia, has recorded the highest temperature in the shade, which was 109° in 1887, and reached 112.4° in 1886. The same place had also the highest temperature in the sun, 170.7° , and was the driest station during 1889, having a mean humidity of 63 per cent. The lowest shade temperature in 1889 was recorded at Winnipeg on Feb. 23, -42.6° . Once only did any station come within 20° of this. Winnipeg also exhibited the greatest range in the year, the greatest mean daily range (24.5°), the lowest mean temperature, and the least rainfall (14.96 inches). The highest mean temperature was 80.5° , at Bombay; and the greatest rainfall, 73.79 inches, at Trinidad. London was the most cloudy and the dampest station, the mean humidity being 81 per cent. The brightest station was Malta, which had little more than half the cloud of London.

Clouds.—Prof. Abbe has elaborated a nephoscopic method for determining the actual height and velocity of clouds by combining observations made when the vessel or observer moves successively in two different ways, or with two different velocities. It is called the "aberration method," in distinction from ordinary parallax methods. Prof. Abbe's main work has been a determination of the motions of the atmosphere from a study of the lowest winds and the successive strata of clouds. The visible clouds, he concludes, give little or no information as to the motions of the atmosphere in the widest sense, but prove that it is everywhere divided into local systems of currents, so that we have winds circling around a storm center, a high barometer, an ocean, or a continent; and, at least on the Atlantic, no winds that circulate exactly as they would do on a rotating, uniform, smooth globe. The angles of inflow and outflow have been determined for three or four successive strata of air in mid-Atlantic; also the relations of the cloud-appearances to distant storms, squalls, rains, and changes of wind, with such accuracy that on many occasions predictions of such phenomena have been made and verified.

A fuller description than has been published before of the luminous clouds observed in the evenings of midsummer is given by O. Jesse, of Steglitz, near Berlin. The phenomenon was first remarked by the author on the 21st of June, 1885, at about 9.50 p. m., when the northwestern and northern sky was covered to the height of about 20° , with a layer of bright cirrus-like clouds, which reached from about northwest to north-northeast. Three horizontal zones were distinguished, the lower one of which was without luster, and yellowish. Higher up was a strip, several degrees in breadth, "which shone with an extremely beautiful, white gleaming, silver-like light." Above this strip was another like it, but not quite so brilliant, of a bluish tint. The light of the central zone was comparable with that of the nearly full moon at sunset. About 10.30 p. m. the

height of the upper limit of the phenomenon had been somewhat reduced. The sun was through all the time of this observation—which was made in $52^{\circ} 5'$ north latitude—at a depth below the horizon at which ordinary clouds can not any longer be affected by its direct light. The phenomenon reappeared several times in the course of the following weeks, beginning fifteen or twenty, or sometimes forty minutes or more, after sunset, sometimes covering nearly the whole sky, and being marked by a gradually increasing brilliancy which was accompanied by a progressive extinction of the phenomenon proceeding from southeast to north-northwest. Toward the end of July the luminous clouds disappeared. The phenomenon presented itself again, suddenly, toward the end of May, 1886, and remained visible, with some interruptions, till the beginning of August. It has been repeated since from year to year, always at the same season. Mr. Jesse has determined that the luminous clouds migrate in such a way that they may be found in the southern hemisphere between the forty-eighth and sixtieth degrees of latitude during December and January; but he has received no information of the phenomenon being observed in the equatorial regions. The gradual extinction of the upper limits of the luminosity with the deeper sinking of the sun indicates that the phenomenon is an effect of direct illumination. Different measurements gave from 50 or 60 kilometres to 81 or 82 kilometres as the height of the clouds.

A similar phenomenon has been observed by M. Ceraski, of the Moscow Observatory, since 1885, whose observations are in substantial agreement with those of Mr. Jesse as to the season and the time of night at which the clouds appear, and as to the height of the clouds. The phenomenon of green clouds was witnessed by William Ogilvie while on the upper Yukon, Feb. 19 and 29, 1888. It was seen in the morning, just before sunrise, and on both occasions the sun was covered with downy white clouds, while there was a very slight fall of minute ice crystals, accompanied by a much higher temperature than usual. The color was a brilliant emerald green, fringed on the lower side with yellow, which, as the sun gradually rose encroached on the green, until the clouds were all yellow. This color changed to orange and red after the sun had risen above the horizon.

The formation of a tornado cloud was witnessed in Minneapolis, Minn., on July 14th. The process was thus described in the "Journal" of that city: "First, there was a concentration of clouds at a certain point from all directions—all rushing together with great velocity. As detached clouds came in contact with the concentrated masses, they would be seized upon by an invisible power and hurled downward with terrific force, but all the time the central cloud grew more and more dense, until it became a black and impenetrable mass."

The observations respecting the number of dust particles in the atmosphere made by Mr. Rankin with apparatus invented by Mr. Aitkin, at the Ben Nevis Observatory, Scotland, point to a daily maximum during the afternoon minimum barometer, and a minimum during the morning minimum barometer. Relations are in-

licated between the numbers of dust particles and the cyclones and anti-cyclones over north-western Europe at the time. The observations also indicate that the dust particles may vary enormously during mist or fog, without any difference in the apparent density of the fog.

Atmospheric dust is divided by Dr. W. Marcell into organic and inorganic. The dust scattered everywhere in the atmosphere, which is lighted up in a sunbeam or a ray from an electric lamp is organic. It is seen to consist of countless motes, rising, falling, or gyrating, although it is impossible to follow any of them with the eye for longer than a fraction of a second. It is difficult to say how much of the dust present in the air may become a source of disease and how much may be innocuous. Many of the motes belong to the class of micro-organisms which are frequently the means of spreading infectious diseases.

Storms.—Four classes of summer thunder storms are described by W. M. Davis in the Observations of the New England Meteorological Society. Those of the first class are of local origin, on quiet, hot, anti-cyclonic days, the action of which suggests that they are merely overgrown convective movements. They are less common than those of the other classes. A second class consists of those storms which spring up in the warm southerly winds southwest of a cyclonic center, whose convective overturning is therefore due in part to imported heat. They are also relatively rare. In the third class are included the largest of our summer thunder storms, which seem to be produced where the warm southerly winds are most nearly contrasted with the cooler westerlies that follow them; the storm forms along the line between the two, and advances obliquely, across country. The fourth class of thunder storms contains those which arise in the westerly winds southwest of a cyclonic center, and whose convective overturning is due as much to the importation of cool air aloft as to its warming on the ground below. They are of the same kind as the snow squalls of late winter, except that their violence is greater. The storms of the first and second classes are not followed by cooler weather, but those of the third and fourth classes generally accompany a moderate fall of temperature, brought by westerly winds. The more local storms of the first, second, and fourth classes are of moderate size, a few miles wide and from five to thirty miles long. The larger storms of the third class are hardly more than ten or twelve miles wide, but may be one or two hundred miles long, or even longer. These move obliquely broadside with the wind rushing out in the front. The longer storm fronts may not be truly continuous, and yet the different masses advance so uniformly that they may all properly enough be associated as parts of a whole. The longer fronts generally trend northeast and southwest, while the general course of the storm is a little north of east. So uniform is this advance, both in direction and velocity, that it is difficult to accept the common belief in the control exerted by rivers and valleys over the path of thunder storms. Tornadoes are developed in these thunder storms only on rare occasions. The occasional hail-falls of summer are always

associated with thunder storms. They are not rare, and yet are not common enough to cause much destruction. Like tornadoes, they seem to be local developments of exceptional strength within the body of a thunder storm; and, like tornadoes, the belts of country over which they are distributed trend, as far as has been made out, eastward or northeastward.

Five years' studies of thunder storms, from 1882 to 1886, made on the Hungarian plain by M. Hegzfoky, show that on the days on which thunder was observed, forming 16.4 per cent. of all days from April to September, the air pressure sank about 2 millimetres under the normal, morning and evening. The less the pressure, the greater the probability of a thunder storm. The temperature and the moisture and cloudiness were in excess. The wind blew about mid-day more softly, and in the evening more strongly than usual. It went round, as a rule, from the southeast by the south to the west and northwest. The clouds came oftener than usual from the southeast and southwest quadrants; so that the center was usually north of the station. Nearly half of the season's rainfall was on days of thunder storm. The first thunder of the thunder storm most often occurred between 2 o'clock and 5 o'clock, p. m. Toward the end of the season the storms tended to come later in the day. When the pressure fell below the mean of the season, the thunder storms lasted longer than when it was above the mean. After the first thunder the meteorological elements were usually subject to great changes, most marked as the storm neared the zenith; rain fell, wind rose and altered quickly in direction, temperature and vapor pressure fell, and relative humidity, cloud, and pressure increased. As the storm withdrew there was a return to the normal.

The development of storms is attributed by E. B. Garriott, in the "American Meteorological Journal," to an excess of heat received from the earth's surface by radiation, and their progressive movement to the precipitation of aqueous vapor at a considerable height; while the direction in which they move is affected by several conditions, including the disposition of cold, dry air found in areas of high pressure. The areas of low pressure in endeavoring to advance eastward seem to avoid the heavier bodies of cold, dry air, and move toward the point where there is the least resistance to their advance, which would naturally be toward warm, moist regions. Thus, of the storms of North America, a large majority originate over the plateau region in the lee of the Pacific coast ranges of mountains, and advance toward the regions of greatest moisture which embrace the Great Lakes, the Gulf of Mexico, and the valleys of the principal rivers.

Dr. Doberck, of the Hong-Kong Observatory, has expressed the opinion, from comparisons actually made there, that the indications of spectroscopic rain-band observations frequently foretell thunder storms which could not otherwise have been forecast from local observations.

Rainfall.—A distinction is made by M. H. Fischer in his studies upon the equatorial limits of snow between regular falls—that is, a certain average amount in each winter—and those falls which are only occasional. The following table exhibits some of the author's results:

REGIONS.	EQUATORIAL LIMITS.	
	Of regular falls.	Of occasional falls.
Western coasts of the Old World.....	45° N.	38° N.
Continent of Europe.....	37°	33°
North Africa.....	37°	28°
Interior of Asia.....	24°	22°
East coasts of the Old World.....	30°	22° 30'
West coasts of North America.....	47°	34°
Interior of North America.....	25°	18° 15'
East coasts of North America.....	35°	27°
Interior of South Africa.....	35° S.	24° S.
Interior of Australia.....	35°	28°
East coasts of Australia.....	35°	34°
West coasts of South America.....	45°	34°
Interior of South America.....	7° 30'	7° 30'
East coasts of South America.....	44°	25°

The table calls for some explanation. In the south of Europe snowfalls are regular in all the elevated parts of the interior; occasional snows fall in all Europe, in Tripoli, Algeria, Upper and Lower Egypt, and all Syria and Mesopotamia. In Africa snow falls regularly on the Atlas range, as well as on the snow-capped mountains of the equator and the mountains of the Cape, but only exceptionally on the southern coasts and in the interior of the Cape Colony and the Transvaal Republic. The equatorial limit in Asia corresponds with the high zones. Shanghai, in a region of regular falls, presents an exception in having them only occasionally. The phenomena on eastern coasts are different from those on western. In Australia the southeastern districts have occasional snows, and it is only in the highest and most mountainous regions that snow falls regularly. Among the high mountains of South America the limit of snows approaches the equator. The eastern plains to the tropic have occasional falls. The equatorial line of snow everywhere upon the continent comes nearer to the torrid zone than to the sea.

Dr. Hellmann has shown that in Spain profound differences in social and agricultural conditions have developed themselves between the districts where the rainfall is great and those where it is small—differences which control the character and mode of life of the inhabitants. All the stations in common showed a minimal rainfall in the summer—in July and August. The curve of maximal rainfall shows three typical forms and three transitional forms. One set of stations shows a maximum in winter, another set has its maximum in the spring, and the third shows it in the autumn, and between these three a graduated transition is observed. The quotient $\frac{\text{maximum}}{\text{minimum}}$ increases rapidly on going south.

The rain storms are rarely continuous; they occur chiefly in the morning, and are followed by sunshine. Snow rarely falls.

Prof. T. Russell, of the Signal Office, Washington, estimates the entire annual rainfall of the United States at about 1,400 cubic miles. This water would fill a ditch half a mile deep and a mile wide, extending from New York to San Francisco. The average entire rainfall per second would fill a cubical box whose edges would measure 187 feet.

The mean annual rainfall in Missouri, according to Prof. Nipher's collation of observations for ten years, varies from 44 inches on the south-

ern, to 32 inches on the northern border. The average amount of rainfall is 195,800 cubic feet per second, while the average discharge of the Missouri river opposite St. Louis is 190,800 cubic feet per second; hence, if all the rainfall of Missouri reached the rivers it would cause a larger outflow than is actually afforded by the entire drainage basin of the Mississippi, including the valley of the Missouri river above St. Louis. This drainage area contains 733,120 square miles, while the State of Missouri contains 69,415 square miles, or less than a tenth as much.

A "black rain" was noticed in a part of Worcestershire, England, on the first day of July. In road ruts where rain water had collected, a considerable film of black sediment remained the day after the storm. The day had been remarkable for a dense canopy of shifting masses of dark-colored nimbus clouds. Rain storms had been prevalent, with low temperatures and weather more like that of November than of July.

Electricity.—A paper read by MM. Elster and Geitl before the Vienna Academy gives the results of a year and a half's observation of atmospheric electricity on the north side of the Wolfenbüttel. A marked difference was found between the phenomena of spring, summer, and autumn on one side, and of winter on the other. In the former seasons the daily variation of the fall of potential showed a distinct maximum between 8 and 9 A. M., as Exner found at St. Gilgen, and a distinct minimum between 5 and 6 P. M., whereas Exner found a maximum about 6. The variations in winter are irregular; but a weak minimum occurs about 11 A. M., and a more decided maximum about 7 P. M. The authors believe that other factors than humidity, with which Exner seeks to explain the variations, are concerned in the case. When the temperature falls below zero, a cold mist being then generally present, a rather sharp rise in the values often occurs, consequent upon the less reaction of the aqueous vapor. Rainfall in a neighboring region lowers the fall of potential both in winter and summer, and a disturbance of the normal course will announce a coming change in places still unclouded.

Some interesting observations were made by M. G. de Rocquigny Adanson of two Lombardy poplar trees at Baleine, France, which were struck by lightning on Sept. 20. The trees were about a kilometre apart, with 130 other trees—Lombardy and Virginia poplars—between them, none of which were struck. The lightning entered both trees about half-way up to their tops, the upper parts not having been marked by it. The course described by it was an elongated helix, five eighths of a spire being traced in one case, and half of a spire in the other; the direction of both spirals was inverse to that marked by the hands of a watch. Of somewhat similar import to these were the observations by M. F. Terby of two trees that were struck by lightning between Louvain and Fisle-mont, in Belgium. Two poplars were in this case chosen out from a row of elms, and the lightning entered them about the middle, without their upper parts being affected.

Phenomena of globular lightning were witnessed, at a date not given, by a party of geo-

desists on the summit of Bñhl mountain, in the Caucasus range, 12,000 feet above the sea. During a storm of hail and lightning following rain, a bright violet ball, surrounded by rays which seemed about two yards long, struck the top of the peak. A second and a third stroke followed, and the whole summit of the peak was soon covered with an electric light which lasted not less than four hours. One of the party was prostrated by the first stroke of lightning, which left marks upon his body, but he recovered. At midnight, a camp to which the party had removed was struck by similar globular lightning.

Globular lightning was imitated by M. Planté with his secondary batteries, and more recently by Herr von Lepel, with static electricity obtained from an influence machine. When the pointed conductor ends were held at certain distances from the opposite sides of an insulated plate of mica, ebonite, or glass, small luminous balls appeared moving about, now quickly, now slowly, or sometimes still. Even better effects were had with a glass or paper disk which had been sprayed with paraffine. Small particles of liquid or dust seemed to be the carriers of the light. A slight air current made the spherules disappear with a hissing noise.

Measurements of different auroras by A. Paulsen at Godthaab give heights varying from 0.6 to 67.8 kilometres. A series of observations made by Garde and Eberlin at Nanortalik, near Cape Farewell, gives from 1.6 to 15.5 kilometres. The results obtained by the Swedish International Expedition at Spitzbergen vary from 0.6 to 29.2 kilometres. These observations, therefore, lead to the conclusion that auroras are not confined to the highest parts of our atmosphere, but occur at all altitudes. Paulsen gives accounts of several appearances of auroras beneath the clouds and the summits of mountains. Flögel gave as limits from 150 to 500 kilometres; Reissmann from 800 to 900 kilometres; Nordenskiöld, a mean height of 200 kilometres; while Lemström has seen auroras as low as 300 metres, and Hildebrandsson has seen them in a clouded sky. Paulsen thinks that in the temperate zone auroras appear only in higher strata, while in the auroral zone they appear in lower strata of the atmosphere.

Winds.—The sea breeze is discussed as one of the minor climatic features of New England by W. M. Davis, L. G. Schultz, and R. DeC. Ward in the *Observations of the New England Meteorological Society*. Its occurrence depends on the general weather of the region; it appears most distinctly on warm, clear, quiet days, and is absent on cool, cloudy, and rainy days, and on days with strong winds of any direction. It comes into the shore from the sea, working its way against a belt of calm air, as is the case with the tropical sea breeze, and it exhibits the veering with the sun as the day passes that is noticed with winds of its kind elsewhere. It reaches the shore commonly between eight and eleven o'clock in the forenoon with a velocity of ten or fifteen miles an hour. Its velocity rapidly diminishes inland. Its inland advance from the shore line is made at first at a rate of from three to eight miles an hour, but slower afterward when approaching its greatest penetration of ten or twenty miles in the late afternoon. It produces a distinct and agreeable depression of tempera-

ture on the coast, but this effect is not carried inland as far as its wind extends; neither is the effect as great as that produced by the "sea turn," or easterly cyclonic wind of our coast. The district of most persistent occurrence and penetration of our sea breeze is from Boston to Cape Ann, along what is known as the "North Shore," where the northeast trend of the coast line favors its development in combination with the prevalent southwesterly wind of summertime. South of Boston or Cape Ann, the southwesterly wind often reverses it or drives it away in the afternoon. The origin of the breeze is to be looked for in the diurnal excess of the temperature of the air over the land above that over the sea. The breeze is part of a littoral convectional circulation; but in the morning, while the temperature over the land is rising rapidly and the convectional circulation is in process of establishment, the outward expansion of the land air holds the incoming breeze off-shore for a time, thus causing its first appearance to be not close on the coast line, but in the offing like "a fine, small, black curl upon the waters, as when all the sea between it and the shore not reached by it is as smooth and even as glass in comparison," as Dampier long ago observed.

The hot-southwesterly day winds of Kansas are injurious to many crops. Mr. G. H. Allen regards the quality of intense heat in them as of purely local origin, and supposes that they are caused by a lack of moisture in the earth and the air above it. They may therefore be prevented by any means which will supply the earth and air with abundant and constant moisture. This view is strengthened by the fact they are never felt during the night; but when they are most severe the nights are coolest and most pleasant.

The first prize of the American Meteorological Society for an essay on tornadoes has been awarded to Lient. J. P. Finlay, who has reached the following general results: Tornadoes generally accompany an area of low barometer. Their progressive motion to the northeast arises from the fact that as they always form in the southeast quadrant of an area of low barometer, they must come within the influence of the general drift of the atmosphere on that side of the low barometer, which is always to the northeast. A hail storm is an incipient tornado in the cloud region of an area of low barometer. As the area of low barometer progresses eastward, the region lying on an average about 350 miles to the south and east of the general storm is the region within which tornadoes may be expected. Tornadoes, with hardly an exception, occur in the afternoon, just after the hottest part of the day; the destructive power of the wind increases rapidly from the circumference of the storm to its center. The months of greatest frequency, as determined from a period of over two hundred years, are April to July; the average frequency of the storms does not appear to have changed within that time. The shortest time occupied by the tornado cloud in passing a given point varies from an instant to about twenty minutes, the average time being seventy-four seconds.

Two incidents illustrating the effect of local influences in tornadoes are related in the "American Meteorological Journal" by Mr. A. Sharpless, of West Chester, Pa. The first is on the authority

of a friend who witnessed the phenomenon. It occurred at a point on the Susquehanna river where the western approach is a long gradual slope, while on the eastern side the hills are high and abrupt. The tornado cloud was seen coming from the west, gathering force as it came, till within a short distance of the eastern shore, when a perceptible change took place in its form, consequent on the shutting off of the currents of air from the east. The spiral column being thus deprived of one of its supports gave way, its base was broadened, and there came a "cloud-burst." The other incident was observed by the author himself. The cloud was coming down the south side of a narrow valley. Passing a small piece of timber, mostly lying on the south of its track, it swerved a little to the south, and was brought opposite a sharp hill on the north side of the valley and about 300 yards away. It then turned almost at a right angle to its former course, directly toward the hill, on which it destroyed a barn, some out-buildings, and several trees. It then resumed its original course, much more feebly than before.

From the facts adduced in his papers on "Trombes and Tornadoes," M. Faye concludes, that there are no centripetal movements, either at the foot of trombes or tornadoes or toward the base of cyclones; and that trombes, tornadoes, typhoons, and cyclones are varieties of the same mechanical type, of which the analogy may be found in water courses. They are descending whirls with vertical axes originated in the upper currents of the atmosphere, and follow the direction of those currents. This proposition, Mr. Faye adds, is not his, but was made a century ago by Dr. Parkins, of Boston, in a letter to Benjamin Franklin.

For many years Prof. J. Hann has maintained the theory that cyclones and anticyclones have their origin in the circumstances of the general atmospheric circulation, and are not primarily due to the heating or cooling of that part of the earth's surface which they temporarily occupy. From time to time he has had this view, and the views which logically grow out of it, confirmed by observations at high mountain stations. From the results of such observations, he says, in his latest memoir, "we must now conclude that the temperature conditions of wandering cyclones and anticyclones are the effect and not the cause, that they are the consequence of the movements of the air masses, of the ascents and descents of the vertical circulation of the atmosphere. There can no longer be any doubt that the pressures in barometric maxima and minima generally are to be explained mainly through these movements of the air. The forces which set up the atmospheric circulation of the higher latitudes, especially in winter, have their origin in the warmth of the tropics—that is to say, in the difference of temperature between the polar regions and the temperate zone. Cyclones and anticyclones are but partial phases in the general circulation of the atmosphere. The air currents that set toward the poles as a consequence of the upper gradients are partially resolved in vortices in the higher latitudes, and their progressive movement is chiefly determined by the prevailing westerly direction of the wind currents. The influence of variations of the terrestrial surface, of the heat-

ing and cooling of continents and oceans, as well as of the local influx of water vapor and its condensation, are but of secondary importance."

Kiersnowski's investigations of the daily and yearly variation and the distribution of wind velocities in the Russian Empire show that the highest velocities (6.3 metres per second) occur in the Baltic provinces. The velocities are also high on the White Sea and the Caspian, in the region of the north Russian lakes, and on the steppe, while they are low in the forest region and the Caucasus. They decrease toward the interior of Asia, and reach their minimum (1.5 metre per second) in the Transbaikal. Further east, toward the Pacific, the velocity increases.

Ocean Meteorology.—The first attempt to deal with the diurnal phenomena of meteorology over the ocean is made in the meteorological "Report of the Challenger Expedition," which has been prepared by Dr. Alexander Buchan. Temperature, pressure, and movements of the atmosphere, together with such phenomena as squalls, precipitation, lightning, and thunder storms, are discussed in it. It was found that in equatorial and subtropical regions the mean temperature of the surface of the sea falls to the daily minimum between 4 and 6 o'clock A. M., and rises to the maximum between 2 and 4 o'clock P. M., the amount of the diurnal variation being only 0.9° F. In the higher latitudes of the Antarctic Ocean the diurnal variation was only 0.2°. Of the four great oceans, the greatest variation was 1°, in the north Pacific, and the least 0.8°, in the Atlantic. The diurnal phases of the temperature of the air over the open sea occur at the same time as those of the temperature of the surface, but the amount of the variation is about 3°, rising near land to 4.4°. The greater variation of the temperature of the air, as compared with that of the surface of the sea on which it rests, is a point of much interest from the important bearings of the subject on the relations of the air and its aqueous vapor in its gaseous, liquid, and solid states, and the particles of dust everywhere present, to solar and terrestrial radiation. Thus the air rises daily to a higher, and falls to a lower temperature than does the surface of the sea on which it rests. The diurnal variation of the elastic force of vapor in the air is seen its simplest form over the open sea, where the curve is closely coincident with the diurnal curve of temperature. But near land the elastic force is depressed instead of rising at noon and 2 P. M., and indicates double maxima and minima. The diurnal oscillations of the barometer appear, from the phenomena they present, to be caused, primarily, by the direct heating by solar radiation and cooling by terrestrial radiation of the molecules of the air and its aqueous vapor, and the changes consequent on that cooling. It follows that these changes of temperature are instantly communicated through the whole atmosphere, from its lowermost stratum resting on the surface to its extreme outer limit. The velocity of the wind appears to be greater by four or five miles an hour over the open sea than at or near the land, and practically no diurnal variation was observed in the wind's velocity over the open sea; while near land the velocity gives a curve, with a minimum between 2 and 4 A. M. and a maximum between noon and 4 P. M. The diurnal

curve of thunder storms is the reverse over the open sea of what obtains on land. The second part of the report deals with monthly and annual phenomena. The distribution of atmospheric pressure is shown to be determined by the geographical distribution of land and water in their relations to the varying heat of the sun through the months of the year; and since the relative pressure determines the direction and force of the prevailing winds, and these in their turn determine the temperature, moisture, rainfall, and in a very great degree the surface currents of the ocean, it is evident that there is here a principle applicable not merely to the present state of the earth, but also to the different distributions of land and water in past times.

Climatic Changes.—Prof. Winslow Upton introduced the subject of supposed recent changes of climate, at the annual meeting of the New England Meteorological Society, by alluding to the forces at work to produce climate, and to the fact that the slow changes going on would be apparent in climatic changes only after a long period of years. The sun's heat, however, the prime source of climate, is probably subject to fluctuation, resulting from the well-known fluctuation in the solar activity, but it was not yet established whether any of the observed fluctuations in climate could be directly traced to that cause. The records at Providence and New Bedford had been specially studied, and showed great fluctuations in different years, with some indications of periodicity, but no progressive change. How, then, can the universal popular belief, that the climate is changing, be accounted for? It is, for instance, widely believed in southern New England that the winters are milder and there is less snowfall than formerly. These and similar beliefs can be explained by the short and defective memories of people who recall a few seasons only, and who exaggerate the frequency of some special event; by a change of residence, the person forgetting that there are great differences in localities separated by a short distance; by the fact that the fluctuations are large, and often in the same direction for several successive years; or by the difference between the impressions of the child and the adult. Citations were made from the records of many places, which showed generally considerable fluctuations, some of them apparent periodicity, but none of them advance in any particular direction, and their lack of uniformity or the diversity of the conditions under which they were made was so great that no general conclusions could be deduced from them.

METHODISTS. I. Methodist Episcopal Church.—The following is a summary of the numerical returns of this Church for 1890, as given in the Methodist Year-Book for 1891: Number of annual conferences and missions, 129; of traveling preachers, 14,792, of whom 1,866 are on trial, 1,067 supernumerary, 1,803 superannuated, 61 located, and 10,056 effective; of local preachers, 14,072; of lay members, 2,283,154, of whom 219,333 are "probationers"; of baptisms during the year, 77,661 of children and 89,452 of adults; of Sunday-schools, 26,889, with 296,253 officers and teachers, and 2,264,852 pupils; of churches, 22,833, having a probable

value of \$96,350,482; of parsonages, 8,563, valued at \$14,450,264. Amount of benevolent contributions: For the Missionary Society, \$1,135,272; for Church extension, \$185,993; for the Freedmen's Aid and Southern Education Society, \$266,684; for the Sunday-school Union, \$25,206; for the Tract Society, \$23,125; for the Woman's Foreign Missionary Society, \$220,340; for the Woman's Home Missionary Society, \$112,970; for the Board of Education, \$69,368; for the American Bible Society, \$34,965; contributions for ministerial support, \$9,367,826; for superannuated preachers, \$234,149; for church building and improvements, \$5,327,366; for indebtedness on church property, \$1,489,744; leaving as the present indebtedness, \$8,597,561; for current expenses, \$2,466,468.

The General Committee of Church Extension met in New York city, Nov. 7. The report of the board, besides an account of the year's transactions, embodied a review of the first quarter of a century of the society's history, which was completed with this meeting. The entire receipts from the beginning had been \$4,017,978. The whole number of churches aided had been 7,399, of which 573 had been aided during the year just passed. The receipts for the past fiscal year had been \$185,992 on the general fund, and \$113,295 on the Loan fund—in all, \$299,287, showing a net increase during the year of \$22,809. The Loan fund had grown steadily and had secured a cash capital of \$678,926, besides property valued at \$20,615. Of this amount there were now subject to annuities \$409,030. The amount of loans outstanding was \$680,605. Thirty frontier churches had been procured during the year, making the whole number 464.

The annual meeting of the Board of Education was held in New York Dec. 3. The receipts from cash collections had been \$52,500. Including returned loans, etc., the total income for the year was \$69,338. The invested fund amounted to \$226,000. The entire amount of the collections is now disbursed among the several conferences in home and foreign fields. The amount disbursed in the past school year had been \$42,174 to students in 100 different colleges, theological schools, and academies. The number of beneficiaries for the year was 935. The average amount loaned to each beneficiary for the year was \$45.68. The whole number of beneficiaries to the end of the last school year was 3,207. The sum of \$50,000 was appropriated for the ensuing school year.

The twenty-fourth anniversary of the Freedmen's Aid and Southern Education Society was held in Harrisburg, Pa., Oct. 25, 26, and 27. The receipts during the year, including returned loans and the credit balance at the beginning of the year, had been \$300,052. Of this sum, \$45,634, or \$10,393 more than in any other year, had been derived from students for tuition and room rent. The schools included 8 collegiate institutions, 1 theological seminary, and 12 academical institutions, with 4 biblical departments, 4 medical, dental, or pharmaceutical departments, and 12 industrial departments among colored people; and 3 collegiate schools, 1 biblical department, and 16 academical schools among the whites. Connected with these were 206 teachers and 5,659 pupils in the colored schools, and 109

teachers and 2,652 pupils in the schools for whites. The value of the real estate appertaining to the schools was estimated at \$1,500,000, free from indebtedness. In the twenty-four years of the society's existence \$2,806,890 had been received and expended for its educational work, and 100,000 students had been in its schools.

The General Missionary Committee met in Boston, Mass., Nov. 12. The receipts for the year had been \$1,135,272.

The following schedule of appropriations was adopted for the support of missionary work in 1891:

I. FOREIGN MISSIONS:	
Africa.....	\$5,000
South America.....	50,750
China.....	108,019
Germany.....	30,600
Switzerland.....	9,500
Scandinavia.....	48,480
India.....	112,500
Malaysia.....	7,250
Bulgaria.....	19,280
Italy.....	41,135
Mexico.....	58,208
Japan.....	61,666
Corea.....	15,924
Lower California.....	1,000
Total for Foreign Missions.....	\$566,352
II. WITHIN THE UNITED STATES:	
Welsh missions.....	\$2,088
Scandinavian missions.....	51,520
German missions.....	47,200
French missions.....	7,890
Spanish missions.....	18,590
Bohemian and Hungarian missions.....	5,800
Japanese missions.....	6,945
Italian missions.....	2,976
Portuguese missions.....	990
American Indian missions.....	5,255
For conferences north of the Potomac and Ohio, and east of the Mississippi river.....	24,845
For conferences in Iowa and Kansas, and States north of them, including the Black Hills.....	81,882
White work (in the South).....	58,870
Colored work.....	54,995
Rocky mountain work.....	62,242
Pacific coast work.....	24,300
Total within the United States.....	\$459,648
Total for Foreign and American Missions...	\$1,290,000

Contingent appropriations were also made, conditioned on the amounts to be contributed by individuals for the purposes named; to India for various schools, native pastors and teachers, etc., \$22,000; to China, for schools, press, and property, \$34,000; to Japan, for churches and dormitory, \$14,000; and to Italy, for property at Rome, \$5,000. The foreign missions returned 182 foreign missionaries, 474 other foreign agents, 661 native ordained preachers and 3,771 other native laborers, 52,966 members, 21,763 probationers, 33,844 pupils in day schools, 107,085 in Sunday-schools, and 5,796 adults and 5,263 children baptized. In the domestic missions were 3,526 missionaries, 93 assistants, 3,598 local preachers, 264,242 members, 41,562 probationers, and 279,402 pupils in Sunday-schools, with 14,872 adults and 13,609 children baptized during the year.

The twenty-first annual meeting of the Executive Committee of the Woman's Foreign Missionary Society was held in Wilkesbarre, Pa., Oct. 29. Mrs. W. F. Warren was chosen president. The society includes 5,557 auxiliary societies and local organizations, with 138,950 members. Its receipts for the past year had been \$230,329, of which about \$10,000 had been de-

rived from bequests. It had employed 96 missionaries, of whom 34 were in India, 23 in Japan, 20 in China, 4 in Corea, 7 in Mexico, 4 in South America, 2 in Bulgaria, and 1 in Malaysia. The missionary work is carried on through visitation by Bible women and through schools.

The annual meeting of the Board of Managers of the Woman's Home Missionary Society was held in Buffalo, N. Y., Oct. 30. The receipts for the year had been \$112,970, and the expenditures \$116,350. There had been also a balance in the treasury of \$20,233. Considerable supplies had in addition been sent out to industrial homes and to frontier preachers. The value of such supplies sent out during the ten years of the existence of the society was rated at \$191,717, while \$387,178 of money had been expended in the work of missions in the United States.

II. Methodist Episcopal Church, South.—The statistical reports of this Church are summarized as follow in the "Minutes of the Conferences" for 1889 (published in April, 1890):

Number of traveling preachers, 4,862; of local preachers, 6,269; of white members, 1,161,666; of colored members, 520; of Indian members, 3,833; total of preachers and members, 1,177,150. Total net increase, 37,053. Number of infants baptized, 34,733; of adults baptized, 57,011; and of Sunday-schools, 12,589; of teachers, 88,842; of pupils, 694,533; of churches, 11,767; of parsonages, 2,561. Value of church edifices, \$16,878,617; of parsonages, \$2,876,575.

Benevolent Contributions.—For church extension, \$56,561.37; for conference claimants, \$132,952.90; for foreign missions, \$227,127.26; for domestic missions, \$193,896.13; increase, \$9,422.82. Total for missions, \$341,023.39. Total increase of missionary contributions, \$10,697.92.

The Missionary Board reported to the General Conference that the appropriations for the past four years had been \$820,517, and the collections \$916,379. The annual appropriations for the support of the missions had been enlarged from \$158,880 in 1886 to \$265,277 in 1889, while the debt had been reduced from \$100,000 to \$14,000. This Church assists in the support of the educational undertakings of the Colored Methodist Episcopal Church in America. That Church has institutions for the education of teachers and preachers at Augusta, Ga., and Jackson, Tenn., which are in charge of ministers of the Church, South, appointed by its bishops. One of these institutions, Paine Institute, reported to the General Conference that it had 184 pupils enrolled, 35 of whom were preparing for the ministry. The receipts of the Board of Church Extension for 1889 on general account were \$31,965. The whole amount paid and pledged by the Church during the year was \$77,122. Three hundred and sixty-four churches and two parsonages had been helped.

The receipts of the Woman's Foreign Missionary Society for the year were \$75,486. During the twelve years since its organization it had collected and disbursed \$500,000, and it now held mission property valued at \$180,200. It returned 31 missionaries, 57 teachers and assistants, 10 boarding schools, 31 day schools, 1,248 pupils, and 1 hospital.

The General Conference of the Methodist Episcopal Church, South, met in its eleventh

session in St. Louis, Mo., May 7. The quadrennial address of the bishops represented, in reference to the condition and growth of the Church, that while four years before there were reported in the General Minutes 4,406 traveling preachers, of whom 3,885 were effective; the report of the last year gave the number as 4,862, 4,295 of whom were effective, showing an increase of 456. The number of local preachers had grown in the same period from 5,943 to 6,269, giving an increase of 326. In 1885 there were 980,645 members. The whole number of preachers and members was now 1,177,150, showing an addition in four years to the strength of the Church of 186,156. Regarding the missions, that in Japan asked for the organization of an annual conference, and the bishops recommended that the request be granted; but they did not consider the mission as yet in a sufficiently forward state of advancement to become a part of the independent Methodist Church which it was proposed to form by uniting the several Methodist missions in that country. The missions in China and Brazil had been organized into annual conferences. The mission in Mexico was making steady progress. A question arose as to whether laymen were competent to sit on the standing committees—those on episcopacy and appeals—whose functions involve matters relating to ministerial character. They were not given such right in the law regarding lay representation in annual conferences, but the law regarding the general conference was silent on the subject. The Conference declared it to be its sense "that lay members of this body are eligible to appointment on all its committees." In reply to a communication from the House of Bishops of the Protestant Episcopal Church, proposing a conference for the promotion of union and concord among Christians, and of the organic union of all Protestant churches, the Conference declared, as to the first part, that—

The Methodist Episcopal Church, South, has always been broad and catholic, and must, in the necessity of the case, remain thus so long as she welcomes to her membership all persons of every name and race and color who desire to be saved from their sins and intend to lead a new life; she claims the world for her parish, and is bending all her energies to the propagation of the Gospel of Jesus Christ and spreading of Scriptural holiness over these lands. Claiming leadership to herself, and yielding leadership to none, she has always welcomed, with grateful heart, any agency or any organization which proposes to stand by her side in working out these glorious results and the promotion of godly union and concord; has always been ready to accept the hand of fraternal intercourse and brotherly love offered by any of her sister churches. Whatever barriers to this closer union may exist to-day have not been raised by her, and can easily be removed by those who erected them without the assistance of a commission from this body.

On the second proposition the Conference "would deplore the organic union of all Protestant churches as an evil which would intensify the differences sought to be removed, and clog for centuries the wheels of progress in Christian thought and work." The Conference, therefore, respectfully declined "to appoint a commission to meet a similar commission appointed by the bishops of the Protestant Episcopal Church for the purposes indicated in their declaration."

Provision was made for a general board of trustees, to be invested with corporate powers and authorized to receive and hold in trust for the Church gifts, bequests, and grants of every kind; also for the incorporation of individual societies in those States in which it is allowed by law. The report on the subject of worldly amusements adopted by the Conference, after calling attention to the pledge made by all persons becoming members of the Church of renunciation of worldly conformity and of obedience to the discipline, declares that "we regard theatre-going, dancing, and card-playing and the like, so often indulged in by many of our members, as in clear violation of their religious vows, and the failure of some of our pastors to notice their violation as inconsistent with ministerial vows"; deplores the danger that comes to the purity and power of the Church from such a state of affairs; urges pastors to diligence in warning the people against the danger of worldliness; and "regards the impressions made on the minds of our young people by the use of such expressions as 'reformed theatres,' 'legitimate drama,' and the like, as misleading and dangerous, and the more so if they emanate from a preacher of the Gospel, and we heartily condemn the use of these expressions by our preachers as hurtful to the cause." A standing Committee on Temperance was constituted, whose report, as adopted by the Conference, expresses the conviction—

That if any more advanced position (any position that comes within the province of a church) than the one which the Methodist Episcopal Church, South, occupies to-day upon the questions of temperance and prohibition our membership is ready at once to take it. We are emphatically a prohibition Church. We stand out squarely and before the whole world—certainly in theory, and for the most part in practice—for the complete suppression of the liquor traffic. We offer no compromise to and seek no terms from a sin of this heinous quality. We are opposed to all forms of license of this iniquity whether the same be "high" or "low."

The inquiries of the committee had developed the facts that in most sections there is very little drinking among the membership of the Church; that the members for the most part throw the full weight of their influence and authority as voters against the liquor traffic; and that the preachers were uniformly faithful to the cause of temperance. The Conference pledged itself to continue to agitate the subject of prohibition as a great moral question in all its bearings on the life and work of the Church. It was directed that preachers who refuse to serve the work assigned them, or cease to travel without the consent of the Annual Conference, instead of being tried as heretofore by the Conference in open session, be dealt with as in cases of immorality and by a committee; and that after the committee has acted the final determination be with the Conference. The Board of Church Extension was enlarged by the appointment of an additional secretary. The powers of the Woman's Board of Church Extension were enlarged, and its name was changed to "Woman's Parsonage and Home Mission Society." The object of this organization was declared to be "to unite the efforts of Christian women and children in the collection of funds by private effort, personal solicitation, membership fees, donations, devises, and

bequests, for procuring homes for itinerant preachers, and otherwise aiding the cause of Christ." An additional secretary was given to the Board of Missions, making the number of these officers three. Two new bishops were elected—the Rev. Atticus G. Haygood, D. D., and the Rev. O. P. Fitzgerald, D. D. The bishops were authorized to appoint, and appointed, a committee to revise the statutes and report to the General Conference of 1894.

III. Free Methodist Church.—This Church was organized at a Convention held on a campground at Pekin, N. Y., in 1860, when a polity was framed incorporating the distinctive features by which the Church has been known, and the Rev. B. T. Roberts was elected superintendent. In 1862 the name Convention, as designating the general meeting, was changed to General Conference. The organization of the Church was based on the Methodist discipline, in which such changes were made as seemed required to meet the views and purposes of those members who had withdrawn from the Methodist Episcopal Church, and to secure larger powers and more freedom to the laity and the local societies. The prerogatives of the episcopal office, the presiding elder, and the minister in charge were curtailed. Regulations were adopted to promote plainness of dress. Opposition to secret societies was made a principle. Religious experience was made the first and most essential condition of church membership. Conferences or General Conferences have met every four years since.

The eighth General Conference met in Chicago, Ill., Oct. 8. Statistics were presented showing that there were now connected with the body 28 annual conferences, 600 itinerant preachers, 600 local preachers, and more than 20,000 members. The Committee on Missions reported that during the past four years the Church had contributed \$9,410 to the foreign work, which had been applied, all but a balance of \$779, to purposes of the mission in Africa. This mission had suffered much, and was still suffering from the deadly influence of the African climate. The sum of \$4,528 had been raised for "general mission work," and had been expended in twelve States and the Dominion of Canada. A proposition in favor of the ordination of women called out a spirited debate. It was lost, and the Conference adopted a resolution declaring that "We, the General Conference of 1890, disapprove of the ordination of women"; but it decided that a woman who is a member of a society and the wife of the preacher in charge is eligible as a delegate to an annual conference. A change was made in the marriage service by which the woman's promise to obey and serve is omitted, and the questions which the woman is required to answer are made substantially the same as those which are asked of the man. A paragraph was inserted in the discipline under which members living at a great distance from the class-meeting to which they belong, and unable to attend, shall once a quarter send to the leader or preacher testimony as to their religious state. Failing to do this, or to pay their conference claims, they may be at the end of the year registered as removed without letter. A new chapter was inserted authorizing and regulating the organization, under chairmen of districts or licensed

evangelists, of bands for evangelistic work. A resolution was passed disapproving of "the so-called independent" missionary work that appeals to the Church for its support, "and at the same time antagonizes the proper board work." The three general superintendents—B. T. Roberts, E. P. Hart, and G. W. Coleman—were elected for another term. A report on reforms, which was adopted, declared it a "privilege and duty" to give influence and votes to the party that takes its stand strongly and unequivocally for the prohibition of the liquor traffic; approved of national Sabbath reform, ballot reform, the work of the Woman's Christian Temperance Union, and of the Society for the Suppression of Vice; suggested reforms in dress, diet, and matters relating to health; and reiterated the testimony of the Church against secret societies. Another series of resolutions expressed apprehension over the progress of the Roman Catholic Church in the United States, and recommended a thorough discussion in all the Church periodicals of Romanism in its relation to our civil and religious institutions. An increase was noticed in the Sunday-schools. The reports showed that there were more pupils in Sunday-schools than there were church members, the proportion being 1:3 pupils to one member, and the ratio was increasing. There were now 26,940 members of the Church, and 35,181 pupils in Sunday-schools, an increase of 19,573 pupils in four years.

IV. Methodist Church in Canada.—The following is a summary of the statistics of this body as they were presented to the General Conference in September: Number of ministers and probationers for the ministry, 1,798; of local preachers and exhorters, 3,142; of leaders, 7,143; of members, 233,868; of baptisms, 1886 to 1890, 73,374; of Sunday-schools, 3,173, with 28,411 officers and teachers, and 226,050 pupils; of churches, 3,092; of parsonages, 967; total value of property, \$11,597,491.

The present income of the Education Society was \$20,345, against \$11,954, four years previously. During the four years the amount of the fund had increased from \$11,000 to more than \$200,000. Subscriptions of \$270,000 had been obtained for the Federation fund, to which should be added a bequest of \$200,000 from Mr. William Goodesham. An expense account of only \$10,572 was to be charged against the latter fund. Two thousand five hundred and twenty-two students were registered in the Methodist colleges; the total assets of the institutions were returned at \$1,048,700, and their income at \$190,209. The Book Committee reported that, although \$42,000 had been taken off in valuation, and \$29,000 had been paid by order of the Conference to the Superannuation fund, \$53,000 had been added to the capital of the Book Room. Three hundred and forty-eight new Sunday-schools had been established since 1886. The contributions of the schools had been \$201,881, or nearly \$1 for each pupil. The total income of the Board of Missions for four years had been \$857,153. The income for 1889-90, \$220,026, was the largest in the history of the Church. The board had employed during the last year 623 paid agents, who ministered to a membership of 45,205. The number of members in the Japan mission had increased from 591, in 1886,

to 1,716, and their contributions from \$903 to \$5,588; and the church property in Japan was valued at \$65,000. A conference had been formed in Japan in 1889, and hopes were entertained that Methodist union would be shortly accomplished in that country. The work among the Indians in the Northwest, of which a good report was given, absorbed about 22 per cent. of the income for missions. Missions were carried on also among the French in the Province of Quebec and the Chinese in British Columbia. The Board of Missions, at its annual meeting for 1890, made appropriations of \$224,426, of which \$91,680 were for home work, \$45,966 for Indian missions, \$28,659 for Japan, \$4,106 for missions among the Chinese, \$9,555 for the French work, and the rest for various purposes.

The General Conference met in Montreal, Sept. 16. The question that elicited most interest was that concerning the federation of Victoria University with the University of Toronto. This measure, by which the former institution would surrender its independent privileges and become a part of a General Provincial University, had been referred by the previous General Conference to an advisory committee acting with the board of regents of the university for executive action. Its consummation had been delayed by lawsuits, some of which had been concluded favorably to it, and others would be on the completion of certain steps. The principle of federation was again approved. The report of the Committee on Church Union expressed thankfulness for the increasing indications of a spirit of unity among the churches of the country, and approved the action of the committee appointed four years before, as presented in its report of the meeting held by the representatives of the Anglican and Presbyterian churches in Toronto. The Conference, it said, would be gratified if an organic union of the Protestant churches could be effected, and regarded the first three resolutions of the Lambeth Conference referring to negotiations for union as being fairly satisfactory. But the resolution of that body relating to the historic episcopacy must be defined in harmony with the identity and equality of the office of the presbyter and the bishop. It was recommended that an open letter to all the churches in favor of union be published; and as a further tentative and educational measure toward the accomplishment of union, that there be an interchange of pulpits and the recognition of a common brotherhood at the Lord's Table among those who seriously aim at this object. A standing committee of privileges was appointed to watch parliamentary legislation and the action of the Government during the ensuing quadrennium, and, if necessary in any emergency, to co-operate with other Protestant bodies for the maintenance of civil and religious rights and privileges. In the report on this subject the committee of the Conference said: "On the one hand we claim no rights for ourselves which we do not cheerfully accord to our fellow-subjects, and on the other we will not submit to any stealthy or open encroachment upon this invaluable possession without the most vigorous protest and employment of all rightful means of resistance." The report on Indian affairs recommended that the Government should establish and main-

tain as many Indian schools as possible, under the management of such churches as will undertake the care of them, and asked that some of the new schools be placed under the control of the Methodist Church. The continued and united support and co-agency of the Church were pledged for the total suppression of the liquor traffic. Unalterable opposition was declared to all efforts to regulate the traffic by taxation or license, high or low, and complete and immediate prohibition was pronounced the duty of the government. A proposal to secure the election to the House of Commons of a number of Prohibitionists to sustain and urge such measure was approved. A measure was enacted under which all who repeatedly absent themselves from the means of grace, including class meetings, the Lord's Supper, and the public ordinances of worship, without cause shall be admonished, and if that is not efficacious excluded from the Church. The official boards of local churches were given the right to be represented before the stationing committee in reference to the appointment of ministers. Laymen were given a position on the boards of examination of ministerial candidates, on literary subjects. The annual conferences were authorized to make provision for—

such a systematic organization of consecrated Christian women as will give them an official relation to the Church, similar to the order of deaconesses in primitive Christianity. Such women being duly qualified, shall be employed as aids to the pastor. No vow shall be exacted from them, nor uniform dress required. Neither shall life-long service or separate residence be necessary.

A resolution was adopted disapproving the use of tobacco by members, and requiring official members to abstain from it. A proposal to extend the pastoral term to four years (it is now three years) was negatived. The Committee on the Centennial of Canadian Methodism reported upon the plans for celebrations, to include public meetings, the raising of funds for sustentation, church relief, and a special church extension fund, and the publication of a memorial volume. Measures were taken to secure the representation of the Church in the Ecumenical Conference of Methodism, to be held in the United States in 1891.

V. Wesleyan Methodist Connection.—The following is a summary of the statistics of this body as they were reported to the Conference in July, 1890: Number of members in Great Britain, Ireland, the mission fields, etc., 559,382; number on trial, 46,045; of ministers, including supernumeraries, 2,897; of Sunday-schools, 6,926, with 129,285 teachers and 932,888 pupils; of day-school pupils, 180,840; annual cost of Sunday-schools, £21,801; annual cost of day schools, £253,609; amount expended during the year for building and debts, £296,179; total amount of church, etc., debts discharged since 1854, £2,043,390; number of Bands of Hope (temperance societies), 3,569, with 370,681 members. The income of the Home Mission fund had been £37,490, while the expenditure was slightly within that figure. The Chapel Committee returned the amount expended in new erections and the reduction of debt as £296,180. An increased accommodation had been provided of 26,600 sittings.

The receipts of the Wesleyan Missionary Society for the year had been £140,623. The missionary force included 343 missionaries, 2,128 catechists, interpreters, and other paid agents, and more than 4,000 unpaid agents, with 1,582 chapels and preaching stations, more than 34,000 church members, and 63,335 pupils.

Unfavorable criticisms having been published in the journal called the "Methodist Times" concerning the conduct of mission affairs in India and the manner of living of the missionaries, a sub-committee was appointed by the executive committee of the society to inquire into the matter and make such suggestions as they might deem expedient. The committee made its report in June. Two charges had been especially investigated, viz., that the missionaries were living in "luxury," and that the effect of their mode of living was inevitably to separate them from the people instead of bringing them into close contact with them, whereby their usefulness was crippled and their influence lessened. The sub-committee found that the missionaries in India had not the means to live and did not live in luxury, as the English middle classes understand the word; that stipends in India were not the equivalent of £1,000 in England; that there was no substantial difference between the purchasing power of stipends expended in India and the same sums expended in England; and that owing to the recent depreciation of the Indian currency the remuneration of the Indian missionaries did not exceed the stipends and allowances paid to Wesleyan ministers in England. In regard to the charge of separation from the natives, the sub-committee found that while attendance upon the levees of the Viceroy or of the Lieutenant-Governor was comparatively rare, there was nothing in the fact of such attendance to hinder the work of the missionaries among the native population or to prejudice their mutual relations; and, as a whole, that the assertion that the manner or the place of their living tended to alienate them from the native population or hindered their success in the native work was not sustained. The sub-committee recommended, however, some changes in the compensation and allowances of Missionaries. Its report was adopted as constituting a complete exoneration of the missionaries from all the charges.

The Wesleyan Conference met in its one hundred and forty-seventh session at Bristol, July 22. The Rev. Dr. W. F. Moulton was chosen president. The questions which had been raised in the Missionary Society concerning the administration of the missions was discussed in the pastoral session under the examination of character. The session recorded its satisfaction that the confidence which it had placed in the Indian missionaries had been "more than vindicated" by the recent inquiry and its regret that they should have been exposed to newspaper articles and humiliating charges, "injuries alike to their personal character and to their influence as missionaries," which "on investigation proved to be wholly without foundation." While once again assuring "its missionaries in India," the resolutions continue, "of the strong affection and entire confidence with which they are regarded by their brethren at home, the Confer-

ence feels bound to express its grief and displeasure that imputations at once so grave and so undeserved should have been made with so little regard for the facts of the case and for the reputation of men deservedly esteemed, the effect of which has been to inflict lamentable injury on the work of God." The report of the Missionary Committee was also adopted, and the committee was directed to consider during the year the several suggestions embodied in it and report to the next conference. An increase of 2,633 members was reported. A committee was appointed to consider how the legal difficulties might be removed that stand in the way of extending the term during which a minister may serve the same congregation beyond the three years to which it is now limited. (This committee met in December and was not able to reach any conclusion.) The rule respecting appointment to a circuit which a minister had once served was modified so that the minister could be returned after an interval of three years instead of having to wait six years as formerly; and the rule was rescinded under which a minister could be stationed in the same town for only six years in succession. A reply was adopted to the letters of the Archbishop of Canterbury in connection with the resolutions of the Lambeth Council on home reunion. In it the Conference says, after expressing its concurrence in the prayer of the Archbishop for the unity of the Church:

It appears to the Conference that very much might be done by all the Christian communions to promote that unity of spirit without which corporate unity is impossible, and if possible would be of little worth, by frankly acknowledging the Christian character of members of the several churches by recognizing cordially and practically the status and work of their ministers, and by abstaining from everything in public teaching and in our more private ministries which would injure the influence or destroy the fruit of godly labor beyond their own communions. We might approach much nearer to that state of heart and mind on which the Divine Head of the Church Universal would doubtless look with approval. In your Grace's efforts and those of your right reverend brethren to promote this happier state of feeling the Conference would desire very heartily to co-operate, for it is the traditional policy of Methodism to be in its relation to other Christian churches "the friend of all, the enemy of none."

The Conference, while deploring needless divisions, and still more a schismatical spirit, is of opinion that the true unity of the Church of Christ does not necessarily require the corporate union of the several churches, nor their acceptance of any one form of polity and government.

And while fully recognizing the spirit which animated the Committee on Home Reunion appointed by the bishops, the Conference is of opinion that the articles presented as a basis of possible "reunion" (especially the fourth, which relates to the historical episcopate), do not, in the absence of fuller information and more exact definition, provide a practical ground for the discussion of the subject.

A representative committee was appointed to be called together in the event of any educational proposals being submitted to Parliament during the connectional year. Resolutions passed respecting the "Methodist settlement," or colony, which it has been attempted to form in London declare that its object is religious, educational, and social work; authorize the appointment as vice-presidents and as committeemen of

members of other evangelical churches than the Wesleyan and of persons outside of the connection who sympathize in the work.

VI. Primitive Methodist Church.—The statistics of this body, presented to the Conference at Sunderland in June, showed the number of members to be 93,658; of ministers, 1,049; of local preachers, 16,317; of class leaders, 10,563; of places of worship, 5,858; average attendance, 530,764; of Sunday-schools, 4,234, with 61,727 teachers and 431,868 pupils. The missionary anniversary was held in London, May 20. Mr. Joseph Peters presided. The receipts for the year had been £15,159 for the general fund and £3,579 for the African fund, making in all £829 more than in the previous year. The reports from the missions in Australia, New Zealand, and western and southern Africa showed general prosperity and advance. In the home field, 69 missionaries and several evangelists were employed on 53 stations.

The Primitive Methodist Conference met in Sunderland, June 4. The Rev. John Hallam was chosen president. A resolution of the Conference commended to the societies the duty of Scriptural systematic giving to Christian and philanthropic purposes, and authorized the General Committee to make such arrangements as might be deemed practicable for the instruction of the congregations and Sunday-schools on the subject. The opinion of the Conference was declared to the effect that the public-school system should be free, and that all schools aided by local rates or imperial taxes should be subject to representative management and control. A full list of delegates was appointed to the Methodist Ecumenical Conference to be held in the United States in 1891. The Traveling Preachers' Friendly Society returned a year's income of £6,000, and an expenditure of £5,363.

Primitive Methodists in Australasia.—The first General Conference of the Primitive Methodist Church in the Australian colonies met in North Adelaide, Oct. 8. The Rev. H. Gilmore was chosen president. Up to the present time, as the president mentioned in a public address, the Australian churches had been under the care of the British Conference; a stage had now been reached when it seemed advisable to leave them to manage their own affairs. After fifty years of work there were about 10,550 church members in the colonies, independently of New Zealand, with 150 ministers, 780 local preachers, 367 class leaders, 393 churches, and 215 other preaching places; 353 Sunday-schools, with 3,066 teachers and 24,466 pupils; and 35,812 attendants. The church property was worth £262,752. Measures were adopted for promoting the training of ministers and in favor of the organization of Sunday-school unions in all the colonies. The Conference resolved to begin missionary operations in Western Australia, but remitted the subject of a mission in China to the several colonial conferences. It was decided to publish a year-book, with full connectional informations.

The jubilee of the Primitive Methodist Church in the colony of South Australia was celebrated in July. The first service of the Church was held in the streets of Adelaide by three laymen, on the 26th of July, 1840, and a society was formed in the evening of the same day. The con-

nection has now in the colony 146 churches and preaching places, 29 ministers, about 200 local preachers, 87 class leaders, and 3,000 members; 97 Sunday-schools, with 808 teachers and 6,088 pupils; between 12,000 and 13,000 adherents; and provides nearly 17,000 sittings. It has raised during fifty years about £56,000 for building purposes, and returns church debts of £24,000, for which it is intended to provide from the funds to be raised in connection with the jubilee.

VII. Methodist New Connection.—The statistics of this body, as reported to the Conference in June, give the following footings: Number of chapels, 515; of societies, 491; of ministers, 202; of members, 30,809; of members on trial, 4,936; of teachers in Sunday-schools, 11,345; of pupils in Sunday-schools, 88,761. The income of the Chapel and Loan funds had been £827. The Trustees' Mutual Guarantee fund had a capital of £3,875, and returned an income of £451. The business and profits of the Book Room had been increased, and the indebtedness of the college had been reduced. The Auxiliary fund for providing homes for retired ministers returned a balance of £2,208. The expenditures for missions were in excess of the income. The mission in China returned 1,301 members, with 505 on trial. Five thousand two hundred patients had been treated by the medical department of the mission.

The ninety-fourth annual Conference met at Dewsbury, June 9. The Rev. James Le Huray was chosen president. The most important subject that came under consideration was that concerning the action that should be taken upon the report of the Committee of Conference on Union with the United Methodist Free Churches. The committees, appointed at previous conferences, had agreed upon a plan of union under which either body should modify some of the peculiar features of its polity, so that harmony of action could be reached and maintained. The differences between the two are such as grow out of the difference between a connectional (New Connection) system of organization and a congregational one (United Methodist Free Churches). In detail they chiefly concern the adjustment of the relative powers of the ministers and the church organizations, the representation of ministers and laymen in conference, and matters of circuit and financial administration. A minute was adopted declaring that—

The Conference approves of the findings of the united committee, and regards them as calling for the most friendly appreciation, and as inspiring the hope that existing differences may be ultimately harmonized. It has pleasure in recognizing the arrangement suggested as to the constitution of Conference on the basis of equal representation by ministers and laymen, and to insure its authority in regard to legislative and administrative functions, but the Conference believes that the report fails so to secure the position of the minister as the president of circuit and church meetings as to satisfy the convictions of our people, and therefore respectfully submits this important matter to the judgment of the Annual Assembly of the United Methodist Free Churches. The subject was remitted to the annual committee.

A resolution passed by the Conference emphasizes the necessity of the study of the Greek Testament as a valuable equipment for the understanding and enforcement of revealed truth. The preaching by probationers at district meet-

ings of sermons which they had previously used was disapproved of, and they were advised to preach at such meetings sermons prepared within three months of their delivery. The Conference also expressed disapproval of the practice of reading sermons in the pulpit.

VIII. United Methodist Free Churches.—The statistical reports of these societies, presented to the Annual Assembly in July, gave the following numbers: Of itinerant ministers, 377; of local preachers, 3,341; of leaders, 3,889; of members, 77,845, showing an increase of 502 from the previous year; of teachers in Sunday-schools, 26,689; of pupils in Sunday-schools, 203,054.

The total amount of £29,075 had been contributed to the "Silver-Wedding" fund, of which £696 had been paid during the year, and £400 were voted to denominational objects. The capital of the Superannuation and Beneficent fund stood at £38,888. The sum of £2,230 had been paid in annuities to 31 ministers and 28 ministers' wives. Thirteen students had been under training at the Theological Institute. The year's profits of the Book Room had been £1,150. The Chapel Fund Committee reported that £50,600 had been expended during the year in new erections and in the reduction of debts; that the aggregate debt on connectional property had been reduced by nearly £4,400; and that the capital of the Loan fund amounted to £12,239, of which £2,280 had been lent in the last twelve months.

The treasurer of the missions reported that the missionary income for the year had been £21,609, and the expenditure £22,081. The missions were in East and West Africa, China, Australia, New Zealand, and Jamaica. An important and successful work was also going on among the Indians in Central America. The number of members in the foreign missions had increased by 227, of pupils in Sunday-schools by 637, and of preaching places by 27. The Annual Assembly determined to raise a special fund of £12,000, to be devoted to home and foreign mission extension, with special reference to East Africa.

The Annual Assembly met in Leeds, July 8. The Rev. M. T. Myers was chosen president. The Committee on Union with the Methodist New Connection presented the report of the joint committee (of both churches), with a communication from the officers of the New Connection Conference, conveying the resolution passed by the Conference, in which attention was called to the position of the ministers in relation to the presidency of quarterly and church meetings, with the request that it be carefully considered. In the resolutions adopted on this subject, the Assembly suggested, with regard to the particular point submitted to its judgment—

That the report does not interfere with the position of ministers in the New Connection circuits, and that it is the general usage of our circuits to elect the superintendent preacher as circuit chairman. These facts, in the opinion of this Assembly, merit the renewed consideration of the New Connection Conference, "and call for its most friendly appreciation." The Assembly, moreover, hopes that the spirit which animates the resolution of the Conference, and the pleasant intercourse which has been enjoyed by the members of the joint committee, may stimulate brotherly feeling between the members of the two denomi-

nations, and tend to open the way for further negotiations, as well as strengthen a mutual desire for the enlargement of the Kingdom of God and the extension of the principles of liberal Methodism.

The committee was authorized, should occasion arise, to take such provisional action as it might deem advisable in relation to Methodist union, and report to the next Annual Assembly. A delicate question was presented to the Assembly in entertaining an application from the East African Land Company for the contribution of a portion of a sum which the company had paid for the liberation of 1,400 slaves, some of whom had escaped to Free Methodist mission stations. Objections were made to the request on the grounds of unwillingness to recognize the right of property in slaves; that the purchase was mainly to the commercial interests of the company; and because the sum asked—£400—was thought to be too large. The Assembly decided, while repudiating any responsibility for financial engagements made without its consent, and declining to use connectional funds for purposes foreign to their object, to authorize the payment of £200, the same to be raised by subscription. Twenty-two delegates were appointed to the Methodist Ecumenical Conference. "Satisfactory progress" was reported of the evangelistic work of the denomination, for which an income of £838 was reported. The yearly district meetings of the two Australasian districts were constituted annual assemblies, to bear the connectional name and be affiliated with the British Annual Assembly. They were also given the right of appointing one or two representatives to the British Annual Assembly, which will in return be entitled to send delegates to their meetings.

IX. Wesleyan Reform Union.—The forty-second annual delegate meeting of this body was held at Wombwell in July, when the following statistical items were reported: Number of chapels and preaching places, 204; of preachers, 465; of preachers on trial, 91; of members, 7,836; of members on trial, 260; of schools, 179, with 3,132 teachers and 21,709 pupils.

X. Bible Christian Connection.—The statistical returns of this denomination presented to the Conference in August showed the number of members to be 25,217, giving a net increase during the year of 183. The number of admissions had been 2,842. One hundred and forty-five missionaries were supported, or 7 more than in the previous year, of whom 46 were employed on the home stations, 83 in Australia, 8 in New Zealand, and 8 in China. The receipts to the mission funds for the year had been £4,408, showing an advance of £183 over the previous year. The receipts of the Book Room had been £5,233, and its expenditures £4,677. A college for boys is sustained at Shebbear, and an institution for girls at Edgehill, Bideford. The missionaries in China are working, in connection with the China Inland Mission, in Yunnan, on the ancient caravan route to Burmah.

The seventy-second Conference met at Penzance, July 31. The Rev. W. Higman was chosen president. Eight delegates were appointed to the Methodist Ecumenical Conference, while the appointment of two others which this Church will be allowed, was left with the South Australian Conference.

XI. Australasian Wesleyan Methodist Church.

The sixth General Conference of the Australasian Wesleyan Methodist Church met in Sydney, May 7. The Rev. W. Kelyack, D. D., was chosen president. A full discussion was given to the condition of affairs in Tonga, where the attempt to establish a "Free Church" under the patronage of the Government had resulted in a persecution of the Wesleyans and the exile of many of them, which had now continued for more than four years. The previous General Conference had instituted measures under which it had been hoped the trouble might be settled, and had appointed the Rev. George Brown a special commissioner to carry them out. This effort had been unsuccessful. Mr. Brown reported to the Conference—he having just come from Tonga—that no active persecution was going on there now, but properties were still being seized and men were deposed from office simply because they were Wesleyans. Sir John B. Thurston, Governor of Fiji and British High Commissioner, had offered to use his influence to secure an adjustment. The debate turned chiefly upon the propriety of accepting the assistance of a secular officer. The Conference decided to maintain and strengthen the Church in Tonga; to appoint at least two European ministers to extend and conserve its work there, securing them their support; and earnestly to solicit, through the High Commissioner, the good offices of Her Majesty's Government to secure the fulfillment of a promise which the King of Tonga had made to a previous High Commissioner to proclaim freedom of worship, remove existing disabilities, and permit the exiles to return. A committee was instituted on Tongan affairs, and Mr. Brown was appointed a special commissioner for another year. A declaration was adopted on the constitution and powers of the General Conference, in which that body is recognized as a necessary part of the Church system, and its maintenance as essential to the unity of Methodism throughout Australasia, and to the successful discharge of Christian work among the heathen of the South Seas. The General Conference, however, the paper continues—

Recognizing that diversity of circumstances justifies provision for diversity of methods, records its willingness to confer upon the annual conferences a discretionary power to deal according to their own requirements with such matters as are from time to time specifically remitted to them by it. The General Conference hereby empowers each of the annual conferences to frame for itself regulations dealing with the following subjects: (a) The constitution and operation of its stationing committee; (b) the order and form in which the business of such conference shall be transacted; (c) the constitution of the quarterly meeting; (d) the management of the Sunday-schools; (e) the term during which a minister may be appointed to the same circuit.

—subject to certain prescribed conditions.

This measure was adopted partly as the response of the General Conference to a demand from the New Zealand Conference for separation or enlarged freedom of action. A paper was adopted defining the authority of the annual conferences and the General Conference in the matter of "interconferential exchanges" or transfers, in which provision was contemplated for exchanges to be made from time to time for

the purpose of promoting connectional feeling and the unity of the Church. The Conference determined that the class meeting continue a test of membership, but admitted that the circumstances of modern life, removals from place to place, and other conditions were militating against attendance thereat, and that the administration of discipline in cases of non-attendance had not been uniform. It resolved that meeting in class should be held to mean meeting in the regular weekly classes, or in a meeting for testimony and fellowship, to be held once a month, and recommended that such meetings be instituted in every circuit, and, as far as possible, in each church. In the provisions for carrying out these measures it was stipulated that the name of no one should be removed from the roll of membership who had not been visited, exhorted, and entreated, and that tickets of membership should not be withheld from those persons who, on account of affliction, infirmity, distance, or other reasons satisfactory to the minister and the leaders' meeting, are unable to attend class meeting. Steps were taken for the establishment of a mission in New Guinea, where the British Commissioner, Sir William Macgregor, has offered his support, and the Rev. George Brown was appointed to superintend the work. The Queensland districts were constituted an annual conference, "not to be brought into operation before 1893." Delegates were appointed to represent each of the annual conferences in the Methodist Ecumenical Conference, to be held in the United States in 1891.

The capital of the Supernumerary Ministers' and Ministers' Widows' fund was returned at the end of 1889 as amounting to £197,322. The income for the year had been £21,038, and the expenditure £10,210. Fifty-eight supernumeraries and 36 widows were on the list of beneficiaries.

The Educational report showed that there were for general education and the theological training of students for the university, 4 provisional institutions, with 25 ordinary students and 13 students in training for the Maori work. For the higher education of youth, there were the Queen's University College in Victoria, with 30 students, 4 colleges for boys, and 8 for young women, with 1,203 students. There were in the several conferences and mission stations 3,185 Sunday-schools, with 16,503 teachers and 169,348 pupils.

The Settlement in Tonga.—A settlement of the troubles in Tonga was effected by High-Commissioner Thurston in July. The difficulties had grown up under the administration of Mr. Shirley Baker, formerly a Wesleyan missionary, who afterward became the enemy of the Wesleyans. He was appointed Premier of Tonga, and, acquiring immense influence and almost extreme power, organized the Free Church and attempted to force the people into it. He terrorized the King and the chiefs till they submitted to his will, and opposition was silenced. On Sir J. B. Thurston's arrival at Tonga, a council of chiefs was called, and, with the consent of the King, orders were passed removing Mr. Baker from office and directing that he be banished from the kingdom and prohibited from returning for two years. All persons under restraint, in exile, or

suffering other disability by reason of their religious opinions were declared restored to full liberty of conscience and person and free to return to their homes at pleasure; and the flogging of women, which had been done by jailers and other persons in authority under Mr. Baker's administration, was forbidden.

Wesleyans in the Fiji Islands.—The Australasian Church has jurisdiction of the Wesleyan missions in the South Sea Islands, one of the most important of which is that in the Fiji Islands. A review of the history of this mission during the past thirty years shows that the number of places of worship has increased in that period from 428 to 1,322; of Sunday-schools, from 262 to 1,583; of church members, from 11,590 to 35,331; of adherents, from 59,469 to 105,000; of European missionaries, from 7 to 10; of native ministers, from 9 to 65; and of local preachers, from 114 to 1,889.

MEXICO, a federative republic in North America. The legislative body is the Congress, consisting of the Senate, of 36 members, 2 from each State, and the House of Representatives, of whom there are 227, or one for every 40,000 inhabitants. Senators are elected for four years and Representatives for two years by the direct suffrage of all respectable male citizens. Members of each house are paid a salary of \$3,000. Congress is in session from April 1 to May 30 and from Sept. 16 to Dec. 15, and during the rest of the year a permanent committee of both houses transacts business. The President is elected indirectly, as in the United States, for four years, and, according to an amendment to the Constitution made in 1887, he can be re-elected for a second term only. Gen. Porfirio Diaz entered on his first term of the presidency on Dec. 1, 1884, and in 1888 was re-elected for the term ending Dec. 1, 1892. His Cabinet is composed of the following members: Secretary of State for Foreign Affairs, Ignacio Mariscal; Secretary of the Interior, Manuel Romero Rubio; Secretary of the Department of Justice, Joaquin Baranda; Secretary of Public Works, C. Pacheco; Secretary of War, Gen. Pedro Hinojosa; Secretary of Finance, Manuel Dublan; Treasurer, F. Espinosa. The States have their own constitutions and laws. The civil and criminal codes enacted for the Federal District have been adopted in all except Vera Cruz and Tlaxcala.

Finance.—The revenue is estimated in the budget for the year 1890-'91 at \$41,770,000 in Mexican currency, and the expenditure at \$38,452,804. Customs duties are calculated to amount to \$26,200,000; internal-revenue duties, \$1,500,000; direct taxes, \$1,400,000; post-office and telegraphs, \$1,200,000; mints, \$270,000; lottery, \$300,000; stamps, \$9,400,000; miscellaneous resources, \$1,500,000. The estimated expenditure under the various heads is as follows: Legislature, \$1,054,037; Executive, \$49,849; Supreme Court, \$468,884; foreign affairs, \$471,304; Department of the Interior, \$3,678,680; justice and public instruction, \$1,424,972; public works, \$7,310,327; Department of Finance, \$11,365,207; army and navy, \$12,629,544. The budgets of the individual States amount to the sum of about \$10,000,000.

In accordance with an arrangement made with

the foreign creditors of the Government at London on June 23, 1886, the bonds of 1851, the accrued interest up to 1863, represented by the bonds of 1864, and other deferred liabilities, were scaled down from £22,341,322 to £13,991,775 for the English debt, other classes of bonds making the total £14,727,400. The whole outstanding foreign debt was redeemed in July, 1899, at the rate of 40 per cent., by means of new 6-per-cent. bonds issued at 78½. Since 1886 all coupons have been paid promptly. The internal debt was also converted, and 3 per cent. interest is paid on the new bonds. The total indebtedness of the Government in August, 1890, amounted to £22,721,335. The following were the various debts at that date: £10,500,000 of gold bonds of 1888 issued for the purpose of taking up the old foreign loans; the reduced internal debt, paying 3 per cent. interest in silver, amounting at the current rate of exchange to £2,900,710; warrants issued for arrears of salaries to the amount of \$166,125; arrears of subventions due to the 4 principal railroads, \$7,084,000; 5-per-cent. gold bonds of the Tehuantepec Railroad, £1,300,000; 6-per-cent. silver bonds of the Gulf Railroad, £448,000; 6-per-cent. silver bonds issued for harbor improvements at Tonola and Vera Cruz, £322,500.

Area and Population.—There are 27 States, a Federal District, and 2 Territories. Their area and population in 1889 are given in the following table:

STATES.	Square kilometres.	Population, 1878.	Population, 1889.
Federal District	1,200	351,803	451,246
Aguas Calientes	6,095	140,490	121,726
Campeche	56,462	90,413	91,180
Chiapas	55,316	205,562	266,496
Chihuahua	128,946	225,511	266,496
Coahuila	56,781	180,026	181,327
Colima	5,418	65,827	69,547
Durango	95,275	190,546	265,931
Guanajuato	28,462	834,545	1,007,116
Guerrero	66,477	205,560	331,827
Hidalgo	28,170	427,350	494,212
Jalisco	92,919	983,484	1,161,709
Mexico	19,812	710,579	775,969
Michoacan	63,642	661,334	830,923
Morelos	5,238	150,160	151,540
Nuevo Leon	62,381	203,284	270,852
Oajaca	88,971	744,000	806,845
Puebla	32,371	754,466	889,468
Queretaro	9,416	203,350	218,025
San Luis Potosi	66,510	516,486	546,447
Sinaloa	74,269	186,491	223,864
Sonora	197,978	115,424	150,891
Tabasco	25,241	104,747	114,028
Tamaulipas	54,434	140,137	189,139
Tlaxcala	8,898	188,988	155,151
Vera Cruz	70,932	542,918	644,157
Yucatan	85,827	302,315	592,592
Zacatecas	65,167	422,506	526,066
Territory of Baja California	143,692	30,208	34,668
Territory of Tepe	29,211	.....	130,019
Total	1,946,528	9,908,011	11,601,347

Mexico, the capital city, had a population in 1889 of 329,535; Guadalajara, capital of the State of Jalisco, had about 95,000 inhabitants; Puebla city, 78,530; San Luis Potosi, 62,573; Zacatecas, about 60,000; Guanajuato, 52,112; Monterey, capital of Nuevo Leon, 41,700; Queretaro, 36,000; Aguas Calientes, 32,355; Merida, 32,000; Morelia, 30,000; Oajaca, 27,856; Colima, 25,124.

Education is free and compulsory in all the

States, and is maintained by the towns with the aid of occasional grants from the Federal and State governments. Many schools are supported by benevolent societies. The education laws are not strictly enforced. In 1888 there were 10,726 elementary schools, with 543,977 pupils. In the intermediate and higher institutions and schools for professional and technical instruction there were about 21,000 pupils. In 1888 the Federal Government spent \$802,000; the municipality of Mexico, \$1,012,000; and the various State governments and other municipalities, about \$2,500,000 for educational purposes. The Church is independent of the state, and all creeds enjoy equal protection, while no religious society can acquire real estate. There were 119 Protestant churches in 1889.

The Army and Navy.—The Mexican army is divided into 4 divisions, each having 2 infantry brigades containing 3 regiments of variable strength. The battalions are supposed to number 4 companies of 240 men. The peace strength of the standing army in 1890 was 2,270 officers and 34,833 men. The infantry, numbering 1,293 officers and 22,437 men, was composed of 30 battalions of the line, with 1,110 officers and 19,380 men; 30 battalion cadets, 60 officers and 944 men; 3 auxiliary battalions, 79 officers and 1,253 men; 1 battalion of pioneers, 35 officers and 731 men; 1 battalion of sanitary troops, 9 officers, and 129 men. The artillery, which is armed with steel guns on the range system of 8½ centimetres caliber, was composed of 4 battalions of 6 batteries, having 148 officers and 1,688 men; 1 battalion of foot artillery, with 25 officers and 331 men; and a squadron of train, with 11 officers and 101 men; making the total for this arm 184 officers and 2,120 men. The cavalry force was 793 officers and 10,276 men, including 13 regiments of the line, with 481 officers and 6,359 men; a troop of gendarmes, with 21 officers and 229 men; 6 auxiliary corps, with 126 officers and 1,483 men; and 9 troops of rural guards, with 165 officers and 2,200 men. Including the reserves, the peace effective is estimated at 60 general officers, 3,600 officers, 45,000 rank and file, 7,000 horses, and 3,000 mules; the war effective at 160,000 men of all ranks, comprising 131,000 infantry, 25,000 cavalry, and 4,000 artillery. Every Mexican able to bear arms is liable to military service from his twentieth to his fiftieth year. The naval force, consisting of 3 gunboats of 450 tons, carrying two 20-pounders each, and 2 of smaller size, is manned by 79 officers and 390 men.

Commerce and Production.—The imports in 1885-'86 were valued at \$38,715,000; in 1886-'87, \$32,252,375; in 1887-'88, \$36,614,438; in 1888-'89, \$38,658,333. The total exports in 1885-'86 were \$43,647,717; in 1886-'87, \$49,181,929; in 1887-'88, \$48,885,909; in 1888-'89, \$60,158,423. Of merchandise the value exported in 1885-'86 was \$13,741,316; in 1886-'87, \$15,631,427; in 1887-'88, \$17,879,721; in 1888-'89, \$21,373,148. The exports of precious metals in 1885-'86 were \$29,906,401; in 1886-'87, \$33,550,502; in 1887-'88, \$31,006,188; in 1888-'89, \$38,785,275. An average amount of \$25,000,000 of silver is annually coined into dollars in the nine Mexican mints, and the bulk of it exported to China, Farther India, and the Malaysian islands. The coinage of silver in 1888-'89 was \$26,031,-

222, against \$25,862,977 in 1887-'88; \$26,844,031 in 1886-'87, \$25,377,378 in 1885-'84, and \$25,146,260 in 1881-'82. Of gold, \$334,972 were coined in 1888-'89. The total exports of silver coin and ingots in 1888-'89 were \$38,002,000, exclusive of foreign coins. The more important of the other exports were: Henequin, or Mexican hemp, of the value of \$6,872,593; coffee, 3,886,035; hides and skins, \$2,011,129; woods, 1,390,215; tobacco, 971,886; vanilla, 926,903; copper, \$817,989; gold, \$603,000, exclusive of foreign coins; gun, \$595,636; ixtle, \$594,118; live animals, \$587,063; lead, \$467,737. Of the total exports in 1888-'89 the United States received \$40,853,362; England, 12,535,534; France, \$3,496,038; Germany, \$2,061,563; Spain, \$659,330; and other countries, 552,596. Mineral products constituted 71·1 per cent., products of agriculture 25·3 per cent., and products of fisheries 3·6 per cent. of the total exports in 1888-'89. The crop of Indian corn in 1888 amounted to 46,458,810 hectolitres, about 127,760,000 bushels; of barley, 2,095,660 hectolitres were produced; of wheat, 4,026,925 hectolitres; of beans, 2,734,517 hectolitres. Cotton of the average value of \$10,857,000, and sugar of the value of \$8,735,000 are raised every year, besides considerable crops of rice, cacao, and vanilla, and the staple exports of coffee, hemp, and tobacco, which last is becoming important as a substitute for the insufficient product of Cuba. In Vera Cruz about 5,000 tons are grown annually. Wine growing has proved successful, and the raising of the silk-worm is being attempted. Large droves of cattle have formerly been sent to the United States every year. This trade was arrested in 1890 by the operation of the new tariff, and in Mexico higher duties on American lard and petroleum were demanded for the purpose of compelling the United States Congress to repeal the cattle duties. In 1883 there were 20,574 cattle ranches, valued at \$500,000,000. In order to promote immigration and colonization the Government transferred to companies 36,578,780 hectares of land. Besides gold and silver, the mineral riches of Mexico include lead, iron, copper, tin, cobalt, antimony, sulphur, coal, and petroleum. Mining operations have been greatly extended in recent years under the regulations of a new mining code. There are more than 350 mining enterprises, with a capital of over \$30,000,000, employing at least 100,000 men. In 1887-'88 about 100 surveys were instituted for the discovery of new mines. An English company has begun digging coal in Sinaloa. Mexico has 98 cotton mills, which in 1888 produced 3,768,308 pieces of cloth, valued at \$13,189,078.

Navigation.—In 1888 there were 5,386 vessels, of 1,899,083 tons, including 2,161 steamers, of 1,634,238 tons, entered, and 5,232 vessels, of 1,850,616 tons, of which 2,168 were steamers, of 1,584,220 tons, cleared at Mexican ports. The merchant marine comprises 421 vessels, exclusive of 847 small coasting sloops and schooners.

Railroads.—Between 1870 and 1889 the railroad mileage was increased from 372 to 5,012 miles. On June 30, 1890, there were about 5,600 miles in operation. During 1889 the number of passengers was 12,977,952 and the tonnage of goods 875,894, the passenger receipts being \$2,090,505 and freight receipts \$4,822,690.

ending June 30, 1880, and the portion thereof defrayed from the State treasury:

INSTITUTIONS.	From State treasury.	From other sources.
Michigan Soldiers' Home.....	\$49,450 88	\$23,048 68
Schools for deaf, dumb, blind, etc.	129,427 24	5,739 16
In sane asylums.....	356,344 08	176,160 92
Institutions of learning.....	387,746 96	145,467 27
Reformatory and penal institutions.....	826,627 59	185,963 18
Miscellaneous.....	103,191 65	1,264 22
Total.....	\$1,282,788 30	\$539,663 43

	Current expenses.	Building and special.
Michigan Soldiers' Home.....	\$28,874 90	\$87,128 25
Schools for deaf, dumb, blind, etc.	121,345 03	7,877 80
In sane asylums.....	475,482 26	59,570 70
Institutions of learning.....	281,013 54	197,668 74
Reformatory and penal institutions.....	483,204 41	92,810 86
Miscellaneous.....	96,560 97	2,956 27
Total.....	\$1,486,481 11	\$677,007 12

The State debt at the beginning of 1890 amounted to \$239,992.83, of which \$229,000 became due and was paid during the year, and the remainder has long since ceased to bear interest, being payable upon presentation of the bonds at the State treasury. The debt is, therefore, practically extinguished. But there is a trust fund debt on which the State agrees to pay interest permanently for the benefit of educational institutions. This has been accumulating since 1845.

Education.—The following statistics cover the public-school year 1888-'89: Number of districts 7,145, increase in one year 58; school population 640,069, increase 10,146; number enrolled in public schools 423,604, decrease 1,614; average duration of schools in months 7.7, increase .1; male teachers employed 3,681, decrease 92; female teachers employed 12,394, increase 404; average monthly wages, male teachers \$46.31, increase 64 cents; average monthly wages, female teachers \$32.32, increase 75 cents; school-houses 7,493, increase 65 (5,796 are frame, 1,199 brick, 71 stone, and 427 log); value of school property \$13,286,637, increase \$529,534. The school revenue for the year was as follows: Balance on hand, \$881,587.24; receipts from one-mill tax, \$672,465.09; from primary-school interest fund, \$827,773.44; from non-resident tuition, \$56,103.35; from district taxes, \$3,395,030.29; from all other sources, \$535,775.21; total, \$6,368,734.62. The disbursements were, for male teachers, \$929,721.11; female teachers, \$2,263,814; buildings and repairs, \$641,661.48; bonded indebtedness paid, \$327,885.92; all other purposes, \$1,117,327.17; total, \$5,280,400.08, leaving a balance of \$1,088,325.54 at the close of the fiscal year. While there were 10,146 more children of school age in the State in 1889 than in the year preceding, it appears that the attendance upon the schools was less by 1,614. In the graded schools there was an increased attendance of 3,285, while in the ungraded schools there was a decrease of 4,899. The cause for this state of affairs is not clear. The compulsory school law of 1885 has not accomplished its object. It is so defective that its enforcement in its present form is im-

practicable. Under the free-text-book law of 1889, 520 districts, at their annual meetings in 1889, voted to adopt the free-text-book system. There has been a complete change in popular opinion since 1887, when the free-text-book idea had such weak support in the Legislature that it was impossible to bring the question to a vote in either branch.

The principal of the various permanent educational funds held by the State on June 30, 1889, was as follows: Primary School fund, \$4,529,677.44; University fund, \$545,946.47; Agricultural College fund, \$454,636.07; Normal School fund, \$69,556.54.

During 1889 the State Superintendent reports 312 private schools, an increase of 6 over 1888, with 277 male and 422 female teachers and 34,179 pupils, a decrease of 21 teachers and an increase of 3,106 pupils.

The number of students at the various State educational institutions for the year 1888-'89 was as follows: University of Michigan, Ann Arbor, 1,885; Agricultural College, Lansing, 340; Normal School, Ypsilanti, 803; Michigan Mining School, Houghton, 40; School for the Deaf, Flint, 302; School for the Blind, Lansing, 103; State Reform School, Lansing, 712; Industrial Home for Girls, Adrian, 299; School for Dependent Children, Coldwater, 372.

Charities.—There were about 2,840 patients at the four insane asylums of the State on June 30 of this year, 990 being at the Pontiac Asylum, 687 at the Traverse City Asylum, 969 at the Kalamazoo Asylum, and about 200 at the Ionia Asylum for Insane Criminals. All of these institutions are overcrowded, and the increase of the insane is about 200 annually.

At the State Soldiers' Home the number of veterans admitted during the two years ending June 30 was 495. At the beginning of that period there were 395 inmates and 162 were readmitted. The current-expense fund was overdrawn on June 30, 1890, \$13,797.05.

Live Stock.—The following statistics of live stock in the State reported for 1890 were compiled by the Secretary of State: Number of horses, 396,883; milch cows, 405,675; other cattle, 363,519; hogs, 450,748; sheep, 1,908,254. Compared with the statistics of the previous year there is an increase of 11,892 in the number of horses, and of 2,842 in the number of milch cows, and a decrease of 36,586 in other cattle, of 5,258 hogs, and of 26,725 sheep.

Railroads.—The total revenue realized from the operation of Michigan railroads during the year was \$96,423,071.62, or an increase of \$15,755,306.50. The operating expenses for the same period were \$64,613,791.98, leaving a net income for the year on traffic account of \$31,809,276.64, which was \$6,136,631.28 in excess of the net income of the preceding year. The amount returned to shareholders in dividends was \$8,096,184.32, or 3.41 per cent. more than was returned the previous year. The average dividend was 4.81 per cent.

The track mileage in the State, as ascertained for purposes of taxation in 1890, was 6,668 miles. The amount realized to the State treasury from the specific taxation of railroad companies for the fiscal year ending Dec. 31, 1889, payable July 1, 1890, was \$757,234.94, which was an increase

upon the amount of the previous year of \$4,510,640, or 6.33 per cent.

Banks.—On Jan. 7, 1889, when the present State banking law went into effect, there were 80 banks doing business in the State, with assets amounting to \$38,963,417. At the close of this year there were 107 State banks, with assets amounting to \$56,648,415, an increase in two years of 27 in number and \$17,684,998 in assets. Sixty-seven State banks are savings banks or banks with savings departments. These, on Dec. 19, reported their savings deposits as \$27,779,136, and the number of depositors in the savings department as 124,664. The average rate of interest paid to depositors is 3.76 per cent.

Salt.—The salt-producing territory of the State is divided into 9 districts, having a manufacturing capacity of 5,950,000 barrels. There are 123 salt manufacturing companies, and 97 of them were operated during the year with 99 steam and 7 pan blocks and 4,000 solar salt covers. The amount of salt inspected during the year to Nov. 30 was 3,838,637 barrels. The amount inspected in 1889 was 3,846,979 barrels.

Farm Mortgages.—An elaborate report of the State Labor Commissioner regarding farm mortgages was published during the year. The report embraces returns from seven tenths of the State, which are summarized as follow: Number of farms, 90,803; farms occupied by owners, 84,488; number of farms not mortgaged, 47,724; number of farms mortgaged, 43,079; assessed value of farms mortgaged, \$79,713,041; total mortgage indebtedness, \$37,456,372; average rate of interest, 7.2. The percentage of mortgages on farms is about the same as that on other real estate.

Decisions.—Since the adjournment of the Legislature of 1889 many of the important measures passed by it have been brought before the State Supreme Court to test their constitutionality. In the case of *Attorney-General vs. Detroit*, decided by that court late in 1889, it was held that the act of that year providing a registration law for the city of Detroit was unconstitutional, because it operated to disfranchise certain classes of citizens.

On May 9 of this year a decision was given, in the case of *Rode vs. Phelps*, declaring null and void the high-license act of 1889. The court found, on inspection of the legislative journals, that the act certified to by the presiding officers of each house and approved by the Governor was not the act that was finally passed by both houses, but was the original bill without the final amendments. It was decided that the court had authority to go behind the certificate of the presiding officers and to examine the records of each house. As the act had never passed either house in its existing form it was declared void, and the license act of 1882 became operative.

On Oct. 10, in the case of *Feek vs. Bloomington*, the constitutionality of the local-option law of 1889 was sustained by the same court. Among other points, the court decided that the provision prohibiting a vote on the license question in any county more frequently than once in two years was not an attempted delegation of irrepealable legislative power to the people of each county, but was such a delegation of power as the State Constitution authorized in Article

IV, section 38, thereof. The court also held that there was nothing in the State Constitution to prevent the Legislature from passing laws for particular localities, or from suspending the operation of general laws in any locality, as contemplated by this act.

Four days later the same court filed a decision in the case of *Detroit vs. Rush* upholding the Australian ballot law of 1889. It decided that there was nothing in the law to prevent persons blind or otherwise disabled from receiving assistance in preparing their ballots, or from being conducted to the polls when unable to go alone; that it therefore disfranchised no one; that its provisions could be carried out by the proper officers by the exercise of common sense and reason; that mandamus would issue to compel them to make the attempt; and that the fact that no provision was made for paying the expenses necessary to carry out the act was no objection, as the imposition of a duty upon a municipal officer carries with it an obligation on the part of the municipality to bear the expense.

On Dec. 24 the same court rendered two other important opinions. In the case of *Wellman vs. Chicago & Grand Trunk Railroad*, it upheld the constitutionality of the Chapman graded passenger fare act of 1889. Under this law all Michigan roads whose gross passenger earnings were \$3,000 a mile were limited to a charge of two cents a mile, those between \$2,000 and \$3,000 to two and a half cents, and all others to three cents, with special provisions for the upper peninsula roads. The constitutional amendment of 1870 authorized the Legislature to establish "reasonable maximum rates of charges for the transportation of passengers and freights on different railroads in this State," and Justice Morse, in his opinion, holds that this, beyond all doubt, authorizes the Legislature to fix maximum rates, with the sole restriction that such maximum rates shall be reasonable. Not only this, but the opinion maintains that the word "different," as used in this provision of the Constitution, authorizes the Legislature not only to classify the railroads in such legislation, but to legislate differently for different roads. The rates are believed by the court to be reasonable; and the classification of roads according to their gross earnings is approved.

In the other opinion of this date the court declared the law of 1889, providing for cumulative voting for Representatives in the Legislature, in districts where more than one Representative is to be chosen, to be unconstitutional. Under this statute the Republicans of the Detroit city district, which is entitled to seven Representatives, cumulated their votes upon four candidates, and the Republicans of Grand Rapids, which is entitled to two, cumulated their votes upon one. In each case Democratic boards of canvassers canvassed the cumulative ballots as a single vote and issued certificates to the Democratic candidates. The court declares the action legal.

Political.—The first State ticket in the field this year was nominated by the Prohibitionists, in State convention at Lansing, on July 30, and contained the following names: For Governor, Azariah S. Partridge; for Lieutenant-Governor, Henry I. Allen; for Secretary of State, Edwin S. Palminter; for Treasurer, Ansel P. Coddington;

for Auditor, Lucius A. Ives; for Attorney-General, James R. Adsett; for Superintendent of Public Instruction, David Howell; for Justice of the Supreme Court, Noah W. Cheever; for Commissioner of the Land Office, Carlton Peck; for Member of State Board of Education, Charles Scott. A platform was adopted containing the usual resolutions against liquor selling.

On July 1 a State convention met at Detroit, composed largely of representatives of the Patrons of Industry, a farmers' organization, which has proved popular. There were also present delegates from the Farmers' Alliance and from various labor organizations. An independent political party, styled the Industrial party, was there formed, and the following ticket was nominated: For Governor, Eugene Belden; for Lieutenant-Governor, John M. McGregor; for Secretary of State, William E. Adams; for Treasurer, Henry E. Blackman; for Auditor, William W. Graham; for Attorney-General, Adolphus A. Ellis; for Superintendent of Public Instruction, Charles A. Littler; for Justice of the Supreme Court, O'Brien J. Atkinson; for Commissioner of the Land Office, David Treat; for Member of State Board of Education, James Powers. A platform was adopted substantially embodying the principles of the national Farmers' Alliance.

The Republican State Convention met at Detroit on Aug. 29. Its nominees were: James M. Turner for Governor, William S. Linton for Lieutenant-Governor, Washington Gardner for Secretary of State, Joseph B. Moore for Treasurer, Theron F. Giddings for Auditor, Benjamin W. Huston for Attorney-General, Orr Schurts for Superintendent of Public Instruction, Edward Cahill for Justice of the Supreme Court, John G. Berry for Commissioner of the Land Office, James M. Ballou for Member of the State Board of Education. The platform includes the following:

We favor such changes in our State tax laws as shall provide for a more equal and just assessment of real, personal, and corporate property, to the end that all property in the State, and not exempted, shall contribute its equal share in maintaining the public burdens.

We favor such a change in our tax laws as will compel no person to pay taxes on a greater interest in property than he owns.

We reaffirm the position of the Republican party, heretofore expressed in its State platforms of 1886 and 1888, upon the temperance question.

We oppose the further issue of free passes to members of the Legislature and all other public officers.

The Democratic State Convention met at Grand Rapids on Sept. 10, and nominated the following ticket: For Governor, Edwin B. Winans; for Lieutenant-Governor, John Strong; for Secretary of State, Daniel E. Soper; for Treasurer, Frederick Branstad; for Auditor, George W. Stone; for Attorney-General, Adolphus A. Ellis; for Superintendent of Public Instruction, Ferris S. Fitch; for Justice of the Supreme Court, John W. McGrath; for Commissioner of the Land Office, E. D. Baker; for Member of the State Board of Education, David A. Hammond. The name of George T. Shaffer was later substituted for that of E. D. Baker. The platform includes the following:

We are in favor of a secret ballot and of such legislation as shall be adequate to effectually preserve the

purity of elections while securing to each voter the exercise of his franchise.

We demand that henceforth the issuing of all circulating medium be made under acts of Congress, through the National Treasury, in such amounts as the business wants of the country require.

We believe in the free and unlimited coinage of silver, and condemn the Republican party because it demonetized silver and still refuses the demands of the people for a restoration of silver to complete equality with gold.

The November election resulted in the first complete triumph of the Democratic party since the State election in 1854. For Governor, Winans received 183,725 votes; Turner, 172,205; Partridge, 28,651; and Belden, 13,198—a Democratic plurality of 11,520. The other Democratic candidates were elected by the following pluralities: Lieutenant-Governor, 1,842; Secretary of State, 2,706; Treasurer, 887; Auditor, 3,277; Attorney-General, 7,486; Superintendent of Public Instruction, 3,361; Justice of the Supreme Court, 4,644; Commissioner of the Land Office, 3,142; Member of the State Board of Education, 3,536. Upon the question of calling a Constitutional Convention the vote was 16,431 in its favor, and 26,261 against it. Members of the Legislature were elected as follow: Senate, Republicans 14, Democrats 14, and Patrons of Industry 4; House, Republicans 37, Democrats 57, Patrons of Industry 6. Eight Democratic Congressmen were elected, and 3 Republicans.

MILITARY ORDER OF AMERICA, an organization that was granted a charter by the Congress of the United States in 1889. There were 43 incorporators, from all ranks in the United States army during the civil war, nearly all of whom were members of the Grand Army of the Republic or of the Loyal Legion. Among the incorporators were Major William Howard Mills, Col. Royal E. Whitman, Gen. Marens J. Wright, Gen. Albert Ordway, Dr. D. W. Bliss, Col. Felix A. Reeve, Col. T. G. Morrow, Major W. P. Huxford, Col. W. G. Moore, Gen. William S. Rosecrans, Col. George K. Brady, Gen. James R. O'Beirne, Dr. J. F. Hartigan, Gen. James B. Colt, and Col. James A. Bates. The object, purposes, and powers of the corporation were limited to "the erection and provision of a memorial building at the national capital, which shall be a suitable monument to the valor, patriotism, and fidelity of the American soldier and sailor since the days of George Washington, and the establishment therein of a war museum and library; to perfecting of the fraternization of Appomattox; to the perpetuation of the memories of the heroic dead; to the strengthening of the renewed bonds of union between the States; to the education of their children so as to forever insure the nation from the perils of another civil war from any cause; and to promote purposes fraternal, charitable, loyal, and historical, and in no sense partisan." The order consists, first, of the men who were regularly enlisted or mustered in either of the contending armies during the war; second, of their sons who have reached a required age; third, of such patriotic citizens as desire to contribute to its success. Half of all admission fees and fixed dues from members go to a building fund to be used, first, for the erection of the memorial building until completed, and then for the creation of the war museum and library.

Congress was not asked for anything more than a perpetual charter and the permission to erect the building on one of the public reservations, and to have the right to receive one copy of each of the books sent by publishers to the congressional library.

MINNESOTA, a Western State, admitted to the Union May 11, 1858; area, 83,365 square miles. The population, according to each decennial census since admission, was 172,023 in 1860; 439,706 in 1870; 780,773 in 1880; and 1,301,826 in 1890. Capital, St. Paul.

Government.—The following were the State officers during the year: Governor, William R. Merriam, Republican; Lieutenant-Governor, Albert E. Rice; Secretary of State, Hans Mattson; Auditor, W. W. Braden; Treasurer, Joseph Bobleter; Attorney-General, Moses E. Clapp; Superintendent of Public Instruction, D. L. Kiehle; Insurance Commissioner, C. P. Bailey; Railroad and Warehouse Commissioners, John P. Williams, John L. Gibbs, George L. Becker; Chief Justice of the Supreme Court, James Gilfillan; Associate Justices, Loren W. Collins, William Mitchell, Daniel A. Dickenson, and Charles E. Vanderburgh.

Population.—The following table shows the population of the State by counties, as ascertained by the census of this year, compared with similar figures for 1880:

COUNTIES.	1880.	1890.	Increase.
Alitka.....	366	2,462	2,096
Anoka.....	7,108	9,884	2,776
Becker.....	5,218	9,401	4,183
Beltrami.....	10	812	802
Benton.....	8,012	6,284	1,728
Big Stone.....	5,688	5,722	34
Blue Earth.....	22,880	29,210	6,330
Brown.....	12,018	18,817	6,799
Carlton.....	1,230	5,272	4,042
Carver.....	14,140	16,582	2,442
Cass.....	486	1,247	761
Chippewa.....	5,408	8,555	3,147
Chisago.....	7,982	10,890	2,908
Clay.....	5,887	11,517	5,630
Cook.....	65	98	33
Cottonwood.....	5,888	7,412	1,524
Crow Wing.....	2,319	8,852	6,533
Dakota.....	17,391	20,240	2,849
Dodge.....	11,344	10,864	480
Douglas.....	9,130	14,606	5,476
Faribault.....	13,016	16,708	3,692
Fillmore.....	28,162	26,338	1,824
Freeborn.....	16,089	17,962	1,873
Goodhue.....	29,051	28,805	246
Grant.....	3,004	6,875	3,871
Hennepin.....	67,013	185,294	118,281
Houston.....	16,382	14,653	1,729
Hubbard.....	.....	1,412	1,412
Isanti.....	5,063	7,607	2,544
Itasca.....	124	748	624
Jackson.....	4,806	5,924	1,118
Kanabec.....	505	1,579	1,074
Kandiyohi.....	10,150	13,997	3,847
Kittson.....	905	5,887	4,982
Lake.....	4,891	10,362	5,471
Lac qui Parle.....	166	1,299	1,133
Le Sueur.....	16,108	19,057	2,949
Lincoln.....	2,315	5,691	3,376
Lyon.....	6,257	9,501	3,244
Marshall.....	992	9,139	8,147
Martin.....	5,249	9,403	4,154
McLeod.....	12,342	17,026	4,684
Meeker.....	11,739	15,456	3,717
Miller.....	1,501	2,845	1,344
Morrison.....	5,275	12,325	7,050
Murray.....	16,799	19,019	2,220
Nicollet.....	3,664	6,692	3,028
Notre Dame.....	12,833	13,882	1,049
Nobles.....	4,485	7,308	2,823

COUNTIES.	1880.	1890.	Increase.
Norman.....	.....	10,618	10,618
Olus.....	21,543	19,484	2,059
Otter Tail.....	18,675	34,282	15,607
Pine.....	1,865	4,062	2,197
Pipestone.....	2,092	5,182	3,090
Polk.....	11,483	30,192	18,709
Pope.....	5,574	10,082	4,508
Ramsey.....	48,890	189,786	140,896
Redwood.....	5,875	9,886	4,011
Renville.....	10,791	17,099	6,308
Rice.....	22,481	25,968	3,487
Rock.....	8,669	6,817	1,852
St. Louis.....	4,504	44,962	40,458
Scott.....	18,516	18,881	365
Sherburne.....	3,855	5,908	2,053
Sibley.....	10,687	15,199	4,512
Stearns.....	21,956	84,844	62,888
Steele.....	12,400	18,232	5,832
Stevens.....	8,911	6,251	2,660
Swift.....	7,473	10,161	2,688
Todd.....	6,138	12,930	6,792
Traverse.....	1,507	4,516	3,009
Wabasha.....	18,206	16,972	1,234
Wadena.....	2,080	4,058	1,978
Waseca.....	12,385	18,818	6,433
Washington.....	19,563	20,992	1,429
Watson.....	5,104	7,746	2,642
Wilkin.....	1,906	4,846	2,940
Winona.....	27,197	38,707	11,510
Wright.....	18,104	24,184	6,080
Yellow Medicine.....	5,884	9,854	3,970
Total.....	780,773	1,301,826	521,053

* Decrease.

Finances.—For the two years ending July 31, 1890, the summary of receipts and disbursements at the State Treasury was as follows: Balance in all funds, Aug. 1, 1888, \$1,342,362.67; total receipts for the year ensuing, \$3,296,287.27; total disbursements, \$3,532,507.42; balance in all funds, July 31, 1889, \$1,106,142.52; total receipts for the year beginning Aug. 1, 1889, \$3,940,064.02; total disbursements, \$3,407,983.45; balance in all funds, July 31, 1890, \$1,638,223.09. The receipts and disbursements of the revenue fund were as follow: Balance on Aug. 1, 1888, \$139,990.72; receipts for the year ensuing, \$1,939,068.61; disbursements, \$2,064,127.16; balance on July 31, 1889, \$15,532.17; receipts for the year beginning Aug. 1, 1889, \$2,188,156.80; disbursements, \$1,832,966.81; balance on July 31, 1890, \$370,722.16. Included in the revenue-fund receipts for the year ending July 31, 1889, were \$794,663 from State taxes, \$685,433.02 from taxes on railroads, \$102,981.61 from insurance taxes, \$250,000 from sale of State bonds, and \$18,948.59 from interest on deposits. For the year ending July 31, 1890, the revenue-fund receipts from State taxes were \$880,805.79; from taxes on railroads, \$702,367.73; from insurance taxes, \$107,726.57; from sale of State bonds, \$150,000; from fees for new incorporations, \$43,554. The disbursements for the year ending July 31, 1889, from the same fund, included \$149,777.53 for legislative expenses; \$117,464.36 for executive expenses; \$120,883.64 for judicial expenses; \$98,660.05 for seed-grain relief bonds; \$73,557.50 for interest on railroad adjustment bonds; \$150,495.44 for support first insane hospital; \$133,166.66 for support second insane hospital; \$87,244.42 for State Reformatory; \$81,939.84 for State-Prison support; \$87,578.13 for Institute for Defectives; \$38,992.17 for support of Reform School; \$24,996.13 for Soldiers' Home support; \$36,153.77 for State public-

school support. For the year ending July 31, 1890, the disbursements for the same purposes were as follow: Legislative expenses, \$222.47; executive expenses, \$88,114.69; judicial expenses, \$134,366.72; first insane hospital support, \$155,359.09; second insane hospital support, \$162,838.94; third insane hospital support, \$14,368.28; State Reformatory, \$28,000; State-Prison support, \$82,755.85; Institute for Defectives support, \$105,075.77; Reform-School support, \$43,649.62; Soldiers' Home support, \$29,950.04; State public-school support, \$22,114.80; interest on railroad adjustment bonds, \$101,805.

The general school fund receipts and disbursements for the two years were as follow: Balance on Aug. 1, 1888, \$564,543.52; receipts for the year ensuing, \$817,462.29; disbursements, \$790,181.97; balance on July 31, 1889, \$591,823.84; receipts for the year ensuing, \$890,032.76; disbursements, \$793,267.01; balance on July 31, 1890, \$688,589.59. From this fund the sum of \$789,389.12 was apportioned in 1889 to the various school districts for support of schools, and in 1890 the sum of \$791,903.43 was apportioned for the same purpose.

The State debt consists of but two classes of bonds: Minnesota 4½-per-cent. railroad adjustment bonds, \$3,965,000; Minnesota 4-per-cent. revenue and building bonds, \$400,000; total, \$4,365,000. The adjustment bonds bear date July 1, 1881, due in twenty years, and are redeemable at the option of the State, after ten years. The revenue and building bonds are payable at any time within eight years from date of issue (1889). All of these bonds are held by trust funds of the State, with the exception of \$1,686,000.

County Debts.—The total debt of Minnesota counties in 1890 was \$3,275,387, an increase of \$2,361,591 in ten years. Of this \$3,126,438 was a bonded debt and \$148,949 a floating debt.

Education.—The general condition of the public schools in 1890 is shown by the following statistics: Number of pupils enrolled in the public schools entitled to apportionment, 221,186; number of pupils in the public schools not entitled to apportionment, 59,774; persons in the State between the ages of five and twenty-one, 452,345; average daily attendance, 127,025; average length of school, in months, 6.4; number of teachers employed—males 2,114, females 6,733; average monthly wages—males \$42, females \$31.09. The attendance at the four State normal schools in 1890 was 827, and at the State University 1,062.

State University.—The record of attendance at the State University for 1889-'90 is as follows: University courses, 663; law, 134; medicine and dentistry, 127; School of Agriculture, 78; total, 1,002. During the past two years the university has made greater progress than ever. Six new buildings have been erected—Pillsbury Hall (a stone building of 245 feet front), a physical and chemical laboratory, a brick law building, a heating plant, a building for the School of Agriculture, and a veterinary hospital. A summary of the disbursements is as follows: General university, \$122,989.67; School of Agriculture, \$25,878.10; veterinary hospital, \$1,333.74; Law School, \$10,096.89; experiment station, \$54.90; total, \$160,353.30.

Charities.—The State School for the Deaf has an average of nearly 200 pupils, the School for the Blind about 50, and the School for the Feeble-Minded about 250. The following figures show the total expenses of each school and the portion thereof borne by the State: School for the Deaf (1889), total, \$39,580.95; receipts, \$2,959.73; cost to State, \$36,671.22; (1890) total, \$37,612.28; receipts, \$2,752.86; cost to State \$34,859.42. School for Blind (1889), total, \$15,148.28; receipts, \$427.21; cost to State, \$14,721.07; (1890) total, \$15,249.03; receipts, \$740.06; cost to State, \$14,508.97. School for Feeble-Minded (1889), total, \$41,418.09; receipts, \$861.99; cost, \$40,556.10; (1890) total, \$50,219.91; receipts, \$1,192.70; cost, \$49,027.12.

Prisons.—The report of the managers of the State Prison at Stillwater for 1890 shows that, after advertising for bids for labor and receiving none, a contract was made with the Minnesota Thrasher Company whereby about 175 of the convicts were employed. A large number of buildings within the walls of the prison were owned by the Thrasher Company, having been the property of its predecessor, and it was necessary in order to make the contract with the Thrasher Company to agree to take these buildings as part payment for the labor.

In accordance with a widespread sentiment, an attempt will be made to employ a portion of the prison labor in making binding twine. Machinery for this purpose was purchased by a committee selected for that purpose and a guarantee has been given that the machinery will perform the labor claimed for it. The St. Cloud Reformatory will soon be self-sustaining. The building is inadequate.

Grain Inspection.—The annual report for 1890 of the State Grain Inspector shows that during the year there were inspected "on arrival" at the three terminal points, St. Paul, Minneapolis, and Duluth, 107,979 car-loads of spring wheat and 22,675 car-loads of coarse grain, including flax, or a total of 130,654 car-loads of all kinds of grain. There were inspected "out of store" during the same period, 63,935 car-loads of spring wheat and 9,516 car-loads of coarse grains, or a total of 73,451 car-loads. The number of railroad inspection stations at the three terminal points has increased from 12 in 1885 to 27, and the number of elevators from 15 to 30. The number of elevators and mills where weighing is performed is 49.

Decisions.—On March 24, the United States Supreme Court delivered an opinion in two cases involving the constitutionality of the Minnesota law which authorizes the State Railroad Commissioners to establish and enforce reasonable rates for railroad transportation. In both cases the decision of the State Supreme Court was reversed and the law declared unconstitutional, on the ground that the railroads are entitled to a judicial determination of the facts whether the rates established are just and reasonable, a right which is denied them under the law. Justices Bradley, Gray, and Lamar dissented from this opinion, holding that the establishment and adjustment of rates was a legislative prerogative, and not a judicial one.

On May 19, the same court rendered a decision in the case of State vs. Barber, declaring uncon-

stitutional the act of 1889 requiring all fresh meat sold in the State to be cut from animals that were inspected within the State within twenty-four hours before being slaughtered. These provisions were held to be a plain interference with interstate commerce in dressed meat, and therefore invalid.

Political.—The first State ticket in the field this year was nominated at St. Paul by the Prohibition party on June 26. It contained the following names: For Governor, J. P. Pinkham; for Lieutenant-Governor, J. O. Barrett; for Secretary of State, H. S. Hilleboe; for Auditor, Ole Kron; for Treasurer, N. R. Frost; for Attorney-General, Robert Taylor; for Clerk of the Supreme Court, N. G. Dean. The platform, in addition to the usual declarations on the liquor question, contains planks favoring various reforms demanded by the Farmers' Alliance.

Some days prior to these nominations the executive committee of the Alliance had issued a call for a State convention of that order, to be held at St. Paul on July 16, for the purpose of taking independent political action. This call was issued in response to instructions from a large number of local Alliances, and met with the approval of the order throughout the State. The convention was well attended, and the following nominations were made: For Governor, S. M. Owen; for Lieutenant-Governor, J. O. Barrett (the Prohibition candidate); for Secretary of State, M. Wessenberg; for Auditor, P. H. Rahilly; for Treasurer, Eric Mathison; for Attorney-General, J. M. Burlingame; for Clerk of Supreme Court, Frank W. Kolars. Messrs. Rahilly and Burlingame later withdrew. Adolf Bierman, the Democratic candidate for Auditor, and Robert Taylor, the Prohibition candidate for Attorney-General, were then adopted as the party candidates for these offices. The platform included the following:

As producers we demand free and open markets for our grain, and that the railways shall receive and ship grain, as they receive and ship other commodities, for the owner to its destination. That the grading of wheat at country stations be abolished; that the right to establish side tracks to connect grain warehouses and the equal use of cars shall in no manner be abridged.

That in the adjustment of a schedule of rates for this State we believe the railroad commissioners should be guided mainly by the schedule of rates now in force in Iowa. But if the interstate railways leading to Chicago shall make a less rate than the Iowa rates, we demand that the rates to Duluth shall be no greater per ton per mile than the rate per ton per mile to Chicago, reasonable terminal and transfer charges being added to the mileage charges as provided for by the freedom of traffic law now on our statutes.

That we demand the maintenance of the present freedom of traffic law, the present grain laws, and the law for the distribution of cars, and the erection by the State of public warehouses, where the producer shall store his grain unmixed in a special car at actual cost at Duluth and the agricultural fair grounds.

That we hold that mortgage indebtedness should be deducted from the tax upon realty, whether such mortgage is held at home or abroad.

That we favor a material reduction of interest on money, and demand that severe penalties be attached to the practice of usury.

We ask the next Legislature to establish the Australian system of voting for the whole State.

That all public offices which directly affect the in-

terests of the people should be made elective, and for this reason we hold that United States Senators and railroad commissioners should be made elective by popular vote.

On July 24 the Republican State Convention met at St. Paul, and renominated Gov. Merriam, Treasurer Bobleter, and Attorney-General Clapp. For Lieutenant-Governor, Gideon S. Ives was nominated; for Secretary of State, Fred P. Brown; for Auditor, Peter J. McGuire; for Clerk of the Supreme Court, Charles P. Holcomb. The following declarations appear in the platform:

The Republican party claims that in its high-license policy in regard to the liquor traffic it has inaugurated the best and most efficient method of dealing with the evils attendant upon such traffic which has yet been devised, as shown in the results which have followed.

It favors a reduction of the legal rate of interest permitted by written contract, and the vigilant enforcement of all enactments passed for the punishment of usury.

It indorses the introduction of the binding-twine industry into the State's prison, and the supply thereof to the citizens of the State engaged in agriculture and other pursuits at the prime cost of manufacture and sale.

It favors the regulation of the tolls of common carriers by interstate commerce laws, or, if solely within the State, by the legislation of the State, in such a manner as to prevent the watering of stock, with a view to illegitimate exactions of interest thereon, or oppression or discrimination between different individuals or localities, and at the same time to secure to the employé of such carriers a just return for his labor. It pledges itself to the endeavor to secure the passage of such laws as will guarantee to the people of the State the free disposition and transportation of their products, unimpeded by the vexatious exactions of rings and monopolies, or the unjust exercise of corporate franchises, and particularly to secure the reduction of rates on grain, lumber, and coal.

It approves of the Australian system of voting, and recommends its adoption by the next Legislature for the entire State.

The Democratic State Convention met at St. Paul on Sept. 10, and nominated the following ticket: For Governor, Thomas Wilson; for Lieutenant-Governor, E. G. Pahl; for Secretary of State, Andrew T. Lindholm; for Treasurer, Charles M. Foote; for Auditor, Adolf Bierman; for Attorney-General, David T. Calhoun; for Clerk of the Supreme Court, T. F. O'Hair. The platform contains the following:

We denounce the marked growth of corruption in our Legislature. We instance the infamous "House File 157," which, under the deceitful pretense of relieving settlers "and others," remitted to a land-grant railroad company the taxes on its land amounting to nearly one million dollars. We instance the debauchery of legislators in the election of Senators, which, in the latest, was so widespread that the investigation was quickly withdrawn and the testimony taken was suppressed "to save the party from the disgrace" which would follow its publication. We refer to the indubitable fact that there has grown up in the Legislature a gang of professional strikers who introduce measures injurious to legitimate private and corporate interests, making them the basis of demands for money. It is well known that meritorious measures are hindered and obstructed by them until they ascertain "how much there is in it" for them, and we appeal to the conscience of the honest voters of the State to aid us in suppressing this venality which is sapping the foundations of the State.

We again impeach the Republican party for incapacity to deal with the problem of a "free and open"

grain market. We repeat our denunciation of its grain inspection law as "stupid if honest, and malevolent if not," and we point to the fact that complaints continue of the evils it was to remedy, and that the chief inspector admits that all the redress it affords is limited to those farmers who are able to ship their grain directly to the terminals, leaving unprotected that great mass of farmers whose present necessity prevents this, compelling them to sell to the local elevator, and leaving the syndicates which now control most of the elevators of the State to reap the 20 to 30 per cent. profit of which they boasted when promoting their schemes on the English market.

The rapid growth in popularity of Alliance principles was a marked feature of the canvass. At the November election, Merriam received 88,111 votes; Wilson, 85,844; Owen, 58,514; and Pinkham, 8,424; a plurality for Merriam of 2,267. All the other Republican candidates were elected, except the candidate for Auditor, who was defeated by Adolf Bierman, the nominee of both the Democrats and the Alliance. The vote for this office was: Bierman, 130,857; McGuire, 97,659; Kron, 10,476. For Lieutenant-Governor, the Republican plurality was 11,178; for Secretary of State, 8,347; for Treasurer, 12,463; for Attorney-General, 12,366; for Clerk of the Supreme Court, 11,960. Members of the Legislature were chosen at the same time as follow: Senate, Republican 27, Democrats 15, Alliance 13; House, Republicans 40, Democrats 41, Alliance 33.

An amendment to the State Constitution providing that five sixths of any jury, after not less than six hours' deliberation, may render a verdict received at the same election 66,929 affirmative and 48,793 negative votes, or less than the necessary two-thirds majority.

In accordance with an act of the last Legislature, the question was also submitted to the people whether the law taxing railroads upon their gross earnings should be repealed. By a vote of 41,341 yeas to 76,052 nays, the people decided that there should be no repeal.

Of the five Congressmen elected, three were Democrats, one Republican, and one Alliance.

MISSISSIPPI, a Southern State, admitted to the Union Dec. 10, 1817; area, 46,810 square miles. The population, according to each decennial census since admission, was 75,448 in 1820; 136,621 in 1830; 375,651 in 1840; 606,526 in 1850; 791,305 in 1860; 827,922 in 1870; 1,131,597 in 1880; and 1,289,600 in 1890. Capital, Jackson.

Government.—The following were the State officers during the year: Governor, John M. Stone, Democrat; Lieutenant-Governor, M. M. Evans; Secretary of State, George M. Govan; Treasurer, J. J. Evans; Auditor, W. W. Stone; Attorney-General, T. Marshall Miller; Superintendent of Public Instruction, J. R. Preston; Railroad Commissioners, J. F. Sessions, Walter McLanrin, and J. H. Askew; Chief Justice of the Supreme Court, Thomas H. Woods; Associate Justices, J. A. P. Campbell and Timothy E. Cooper.

Finances.—On Jan. 1 the total cash balance in the State Treasury was \$555,450.02. In spite of extra appropriations, it is believed that the revenue for the year will be more than sufficient to meet the expenses, and that this balance will not be reduced. The rate of State taxation for the year was 3.5 mills for general purposes, and .5 mill for payment of interest on the State debt.

Population.—The official returns from the national census of this year are compared with similar returns for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Adams.....	22,649	26,081	3,432
Alcorn.....	14,372	18,115	3,743
Amite.....	14,004	17,198	3,194
Attala.....	19,988	22,213	2,225
Benton.....	11,023	10,555	468
Bolivar.....	18,622	20,980	11,328
Calhoun.....	13,492	14,688	1,196
Carroll.....	17,795	18,773	978
Chickasaw.....	17,905	19,891	1,986
Choctaw.....	9,036	10,847	1,811
Chalmer.....	16,765	14,516	2,252
Clarke.....	15,821	15,826	5
Clay.....	17,367	18,607	1,240
Coshoctaw.....	13,568	18,342	4,774
Copiah.....	27,552	30,288	2,736
Covington.....	9,938	8,299	1,639
De Soto.....	22,924	24,184	1,260
Franklin.....	9,729	10,428	699
Greene.....	3,194	3,906	712
Grenada.....	12,071	14,954	2,883
Hancock.....	6,489	8,315	1,826
Harrison.....	7,895	12,481	4,586
Hinds.....	48,958	59,279	10,321
Holmes.....	27,164	30,970	3,806
Issaquena.....	10,004	12,818	2,814
Itawamba.....	10,668	11,708	1,040
Jackson.....	7,607	11,251	3,644
Jasper.....	12,126	14,755	2,629
Jefferson.....	17,314	18,947	1,633
Jones.....	3,828	5,853	2,025
Kemper.....	15,719	17,961	2,242
Lafayette.....	21,651	20,553	1,098
Lauderdale.....	21,561	25,661	4,100
Lawrence.....	9,420	12,818	3,398
Leake.....	13,146	14,808	1,662
Lee.....	20,470	20,040	430
Leflore.....	10,246	16,809	6,563
Lincoln.....	13,547	17,912	4,365
Lowndes.....	28,244	27,947	297
Madison.....	25,866	27,321	1,455
Marion.....	6,901	9,592	2,691
Marshall.....	29,880	26,048	3,832
Monroe.....	28,353	30,730	2,377
Montgomery.....	18,848	14,450	4,398
Neshoba.....	8,741	11,146	2,405
Newton.....	18,486	16,025	2,461
Noxubee.....	29,874	27,388	2,486
Oktibbeha.....	15,978	17,694	1,716
Osborne.....	28,852	26,977	1,875
Perry.....	8,427	9,597	1,170
Pike.....	16,688	21,293	4,605
Pontotoc.....	13,878	14,940	1,062
Prentiss.....	12,158	18,679	6,521
Quitman.....	1,407	3,256	1,849
Rankin.....	16,779	17,922	1,143
Scott.....	10,845	11,740	895
Sharkey.....	6,306	8,582	2,276
Simpson.....	8,048	10,158	2,110
Smith.....	8,068	10,635	2,567
Sunflower.....	4,661	9,884	5,223
Tallahatchie.....	19,926	14,361	5,565
Tate.....	18,721	19,258	537
Tippah.....	12,867	12,951	84
Ti-homingo.....	8,774	9,302	528
Tunica.....	8,461	12,158	3,697
Union.....	18,050	16,606	1,444
Warren.....	31,238	33,164	1,926
Washington.....	25,867	40,414	14,547
Wayne.....	8,741	9,717	976
Webster.....	9,584	12,000	2,416
Wilkinson.....	17,815	17,592	223
Winston.....	10,087	12,089	2,002
Yalobusha.....	15,649	16,629	980
Yazoo.....	38,845	36,394	2,451
Total.....	1,131,597	1,289,600	158,003

* Decrease. † Name of Sumner County changed to Webster.

County Debts.—The total debt of Mississippi counties in 1890 was \$1,238,124, an increase of \$103,361 in ten years. Of this total, all but \$84,136 is bonded. Two thirds of the counties are without debt.

Education.—The following official statistics of the public schools covering the school years ending in 1888 and 1889 are presented in the last biennial report of the Superintendent of Public Education:

ITEMS.	1887-'88.	1888-'89.
Educable children, white.....	196,247	191,792
Educable children, colored.....	268,100	272,682
Enrolled in public schools, white.....	141,517	148,445
Enrolled in public schools, colored.....	162,344	173,552
Average daily attendance, white.....	89,393	90,716
Average daily attendance, colored.....	91,085	101,710
Average school year in days.....	84	85
Number of schools, white.....	3,154	3,345
Number of schools, colored.....	2,289	2,429
Male teachers employed, white.....	1,704	1,700
Male teachers employed, colored.....	1,781	1,857
Female teachers employed, white.....	2,113	2,318
Female teachers employed, colored.....	1,048	1,240
Average monthly salary, male teachers, white.....	\$35 59	\$38 77
Average monthly salary, male teachers, colored.....	\$25 54	\$26 83
Average monthly salary, female teachers, white.....	\$31 25	\$32 09
Average monthly salary, female teachers, colored.....	\$21 27	\$20 48
Private schools, white.....	238	403
Private schools, colored.....	79	80
Attendance in private schools, white.....	8,164	12,990
Attendance in private schools, colored.....	1,555	2,244

During the two years, 826 new school-houses were erected, at a cost of about \$332,000.

Legislative Session.—The regular biennial session of the Legislature began on Jan. 7 and adjourned on Feb. 24. The following were elected railroad commissioners for two years: J. F. Sessions, Walter McLaurin, and J. H. Askew. A bill for a constitutional convention was the subject of protracted discussion. As finally passed and approved by the Governor on Feb. 5, the act fixed the meeting of the convention at Jackson on Aug. 12, 1890. Provision was made for 134 members to be chosen at a special election on July 29—120 by districts and 14 at large. The compensation of delegates was fixed at \$4 a day and mileage, and the sum of \$30,000 was appropriated to meet the expenses.

The State Treasurer was directed to issue and sell the whole or any part of the \$500,000 of bonds authorized by the act of 1888, either for the special purposes mentioned in that act or for general purposes, whenever in the opinion of the Governor the public interest so required, and he was empowered to accept any bids therefor at not less than 95 cents on the dollar. The State tax for 1890 was fixed at 34 mills, and for 1891 at 3 mills, in addition to the annual 4-mill tax for the payment of interest on the bonds of 1886. Numerous amendments were made to the revenue law. The license tax on banks was abolished, and property of these institutions was made liable to the general *ad valorem* tax levied in the various counties. Express companies were relieved from the annual license tax of \$3,000, and, in lieu thereof, an annual tax of \$1,000 and \$1 for each mile of railroad in the State over which each company does business was imposed on all companies doing any business between points wholly within the State. But it was provided that if the United States Express Company and the Pacific Express Company should, under certain conditions, consent to dismiss their suits against the

State, then they and all other express companies should be liable to pay only \$500 annually and \$1 a mile, as above provided.

The sum of \$60,000 was appropriated for a new building, to accommodate 400 patients, at the State Lunatic Asylum at Jackson, to which the colored patients in the East Mississippi Asylum at Meridian and in the various county jails should be removed upon its completion. An act for the suppression of "trusts" defines the offense of conspiracy against trade, and provides heavy penalties therefor. Domestic corporations entering any "trust" shall forfeit their charter, and foreign corporations shall be prohibited from doing business in the State. But it is provided that the act shall not "apply to any individual or association engaged in the growth of agricultural or horticultural products or live stock, while retaining in their possession or in the possession of their agents any unsold products of their own growth; nor to any association or corporation within the State, nor to any of their business agencies or arrangements for the promotion of agriculture, horticulture, or stock raising, or the purchase and sale of any and all articles, implements, and things for the use and protection of such industries; nor to any other person holding in their own hands as owners thereof, or in the hands of agents of such owners, any and all raw materials of every character which are the growth, result, or product of the property of the labor, skill, or industry of any other such persons." Other acts of the session were as follow:

Creating the office of revenue agent, to be filled by the Governor with the consent of the Senate every two years. Such agent is authorized to investigate the books and accounts of all fiscal officers—State, county, levee board, and municipal—and, in behalf of the proper parties, to sue for and recover sums due or forfeited on account of any delinquencies of such officers either in collecting or paying over funds, and to sue upon their bonds. Said agent may also collect and sue for all delinquent debts or revenues, whether due to the State, county, levee board, or municipality. His only compensation shall be 25 per cent. of the amounts collected by him.

Giving to holders of "swamp and overflowed" lands, whose title is void by reason of wrong scrip being used in the purchase, the opportunity within two years to obtain new patents therefor by paying the State 124 cents an acre.

Fixing the price of all State lands (except lands forfeited for taxes, school lands, and Lowry Island lands), at \$1.25 an acre, and giving any *bona fide* citizen of the State resident two years therein the right to purchase not more than 240 acres thereof in a continuous body at such price.

Rearranging the judicial districts of the State. Adding the Governor and Attorney-General to the Board of Control of the State Penitentiary, and abolishing the office of Superintendent of the Penitentiary.

To punish any person who shall willfully interfere with, entice away, knowingly employ, or induce any laborer or renter who has contracted with another for a specified time to leave his employer or the leased premises before the expiration of the contract.

To abolish the office of State Printer, and to provide for letting the State printing to the lowest bidder.

Providing that each county school board shall, in 1890 and every fifth year thereafter, appoint a committee of teachers in the county, which shall select and adopt a uniform series of text-books to be exclusively used in the public schools of the county.

Creating the county of Pearl River, which shall include the former county of Pearl and parts of Hancock and Marion counties.

Appropriating \$10,000 to the Ladies' Confederate Monument Association, for the completion of the monument to the Confederate dead in Capitol Square in the city of Jackson.

Appointing the Governor, Attorney-General, and State Superintendent of Education a committee to examine text-books upon United States history, and to recommend for the public schools such as appear unprejudiced against the South.

Repealing the act of 1888 apportioning to the several counties the number of free students allowed at the Agricultural and Mechanical College and at the Industrial Institute and College.

To prohibit the soliciting of orders for liquors in localities where prohibition is legally adopted. Increasing the annual available appropriation for Confederate pensions from \$21,000 to \$50,000.

The Hemingway Defalcation.—On Feb. 21, in the course of debate in the State Senate, a statement was made that the retiring State Treasurer, Col. Hemingway, had not settled in full with his successor, and that the sum of \$250,000 was still due from him. On the same day the Lower House, acting upon this information, appointed a special committee to investigate the Treasurer's office and ascertain the grounds for the charge. This committee, on Feb. 22, reported that a satisfactory investigation could not be made during the limited time at its disposal before the close of the session, and advised that a joint special committee of both branches be created, with power to sit after the adjournment of the Legislature, to make a thorough investigation, and to report to the Governor. A committee of five was thereupon appointed, consisting of two members from the Senate and three from the House. Prior to these developments, an act had been passed and approved by the Governor on Feb. 19, authorizing him to appoint, with the advice and consent of the Senate, two commissioners skilled in accounts, whose duty it should be to make a thorough investigation into every office and department of the State government with regard to its financial management and system of keeping accounts. In case the Governor should see fit, they were required to extend their investigations into the finances of each educational and charitable institution of the State, and into the accounts of the county financial offices. The commissioners appointed under this act and the joint legislative committee each made a separate examination of the books of the ex-Treasurer, covering his entire term of fourteen years. The legislative committee, in its report published about March 15, found that the ex-Treasurer had not accounted to his successor for \$315,612.19 received by him, and that he was indebted to the State for that amount. It reported that the bookkeeping of the office was clear and satisfactory, and that the ex-Treasurer had been unable to account for the deficiency. The commissioners, in their report made a few days later, reached the same conclusion.

The ex-Treasurer then published an open letter, declaring that he had never misapplied a dollar of the public money, that the investigation had not been thorough, that errors must exist in the accounts which he could not yet point out, and that the people should suspend their judgment until an expert examination of the books had been made by his friends.

On the basis of the committee report, a complaint for embezzlement was made against him, but he was not brought before the grand jury to be indicted until early in June. Meanwhile, experts of his own selection were at work upon the books of the office. They were unable, during that period, to find any serious errors in the previous examinations, and at the trial of the case the ex-Treasurer was found by the jury to be guilty upon the evidence presented, and was sentenced to five years in the Penitentiary. An appeal was taken to the State Supreme Court, but on Dec. 1 that body overruled the objections and affirmed the verdict. The State then began proceedings against his bondsmen to recover the sum of \$315,612.19 embezzled.

Constitutional Convention.—In compliance with the act of Feb. 5, 1890, Gov. Stone issued his proclamation early in that month, directing a special election to be held on July 29, for choosing delegates to a constitutional convention. A list of 14 delegates at large, who, by the terms of the act, were to be elected upon a general ticket, was nominated by a State convention held at Jackson on June 18. No other nominations were made, and these candidates were elected on July 29, each receiving from 37,531 to 39,318 votes. At the same time, 120 delegates were elected by districts. Of the whole number elected, 131 were Democrats, 2 Republicans, and 1 a Greenbacker. The convention assembled on Aug. 12 and elected Judge S. S. Calhoun to be its president. Its sessions continued through seventy-two days, final adjournment being reached on Nov. 1. One of the avowed purposes of calling the convention was to establish such new qualifications for suffrage as should abridge the negro vote and render secure the political supremacy of the white race. Various plans to this end were discussed at length, and the following article upon the franchise was finally accepted as a result of the deliberations:

SECTION. 1. All elections by the people shall be by ballot.

SEC. 2. Every male inhabitant of this State, except idiots, insane persons, and Indians not taxed, who is a citizen of the United States, twenty-one years old and upward, who has resided in the State two years, and one year in the election district or in the incorporated city or town in which he offers to vote, and who is duly registered as provided in section 3 of this article, and who has never been convicted of bribery, burglary, theft, arson, obtaining money or goods under false pretenses, perjury, forgery, embezzlement, or bigamy, and who has paid on or before the first day of February, of the year in which he shall offer to vote, all taxes which may have been legally required of him, and which he has had an opportunity of paying according to law for the preceding year, and who is not delinquent for any taxes of the year next preceding, and who shall produce to the officers holding the election satisfactory evidence that he has paid said taxes, is declared to be a qualified elector; provided, any minister of the Gospel in charge of an organized church shall be entitled to vote after six months' residence in the election district, if otherwise qualified.

SEC. 3. The Legislature shall provide by law for the registration of all persons entitled to vote at any election, and all persons offering to register shall take the following oath or affirmation. . . .

SEC. 4. A uniform poll tax of two dollars is hereby imposed on every male inhabitant of this State between the ages of twenty-one and sixty years, except

persons who are deaf and dumb or blind, or who are maimed by loss of hand or foot, to be used in aid of the common schools and for no other purposes; said tax to be a lien only upon taxable property; provided, however, that the board of supervisors of any county may, for the purpose of aiding the common schools in that county, increase the poll tax in said county, but in no case shall the entire poll tax exceed in any one year three dollars on each head. The payment of the whole poll tax imposed is declared to be a qualification to vote; provided, further, that no criminal proceedings shall be allowed to enforce the collection of the poll tax.

SEC. 5. On and after the first day of January, A. D. 1892, the following qualifications are added to the foregoing: Every qualified elector shall be able to read any section of the Constitution of this State, or he shall be able to understand the same when read to him, or give a reasonable interpretation thereof. A new registration shall be made before the next ensuing election after these qualifications are established.

SEC. 6. Electors in municipal elections shall possess all the qualifications herein prescribed, and such additional qualifications as may be prescribed by law.

SEC. 7. Prior to the first day of January, A. D. 1892, the elections by the people in this State shall be regulated by an ordinance of this Convention.

Section 5, which especially provoked discussion, was adopted in spite of considerable opposition from the State press and general condemnation from press and people outside the State.

The bill of rights of the new Constitution contains many of the provisions of the Constitution of 1869. But the convention omitted to adopt the provisions of the latter instrument, which declare that "no property qualification shall ever be required of any person to become a juror," that "no property or educational qualification shall ever be required for any person to become an elector," and that "the right of all citizens to travel upon all public conveyances shall not be infringed upon nor in any manner abridged in the State." The declaration of the old Constitution regarding property of married women, was superseded by a provision that no distinction shall be allowed between men and women in reference to their right to acquire and dispose of property of all kinds. The Legislature is given authority, not before enjoyed, to limit, restrict, or prevent the acquiring and holding of land by non-resident aliens. The Legislature may also forbid the carrying of concealed weapons. The section in the Constitution of 1869 relating to freedom of religions worship is adopted, with an amendment providing that the Bible shall not be excluded from use in the public schools.

Other provisions of the new Constitution and changes from the old one may be summarized as follows:

The government shall be divided into three departments—executive, legislative, and judicial.

No person or collection of persons, being one, or belonging to one of these departments, shall exercise any power properly belonging to either of the others, except in the instances in this Constitution expressly directed or permitted. The acceptance of an office in either of said departments shall of itself and at once vacate any and all offices held by the persons so accepting in either of the other departments.

No appropriation bill shall be passed by the Legislature which does not fix definitely the maximum sum thereby authorized to be drawn from the treasury.

The Legislature shall meet at the seat of government, in regular session, on the first Tuesday after the first Monday in January, of the year A. D. 1892, and every four years thereafter; and in special ses-

sion, on the first Tuesday after the first Monday in January of the year A. D. 1894, and every four years thereafter, unless sooner convened by the Governor. The special session shall not continue longer than thirty days unless the Governor, deeming the public interest to require it, shall extend the sitting, by proclamation in writing to be sent to and entered upon the journals of each House, for a specific number of days, and then it may continue in session to the expiration of such time. At such special session the members shall receive not more compensation or salary than ten cents mileage, and a *per diem* of not exceeding five dollars; and none but appropriation and revenue bills shall be considered, except such matters as may be acted upon at an extraordinary session called by the Governor.

Senators and Representatives shall be elected for four years (instead of four years and two years respectively, as heretofore). The Legislature shall elect its own officers, but shall not elect any other, except United States Senators and State Librarian. Legislators are required to swear that they will read the Constitution (or have it read to them), and that they will endeavor to execute all the requirements thereof, and that they will not vote for any measure because of a promise of any other member to vote for a measure. All persons liable as principal for public money unaccounted for are excluded from eligibility to office. The forfeiture of a seat in the Legislature is made the penalty for taking any fee or reward or being counsel in any measure pending before the Legislature.

The Governor shall hold office for four years and shall be ineligible as his immediate successor in office. He is deprived of the power of pardoning before conviction, and can pardon in felony only after the applicant shall have published his petition in the county where the crime was committed for sixty days. He shall have power to suspend alleged defaulting State and county treasurers and defaulting tax collectors pending investigation of their accounts and to make temporary appointments to fill the vacancy. He may veto items of any appropriation bill.

The office of Lieutenant-Governor is abolished, and whenever the office of Governor shall become vacant the President of the Senate shall exercise the office of Governor until another Governor shall be duly qualified; and in case of the death, resignation, removal from office or other disqualification of the President of the Senate so exercising the office of Governor, the Speaker of the House of Representatives shall exercise the office until the President of the Senate shall have been chosen; and when the office of Governor, President of the Senate, and Speaker of the House shall become vacant in the recess of the Senate, the person acting as Secretary of State for the time being, shall, by proclamation, convene the Senate, that a President may be chosen to exercise the office of Governor.

Should a doubt arise as to whether a vacancy had occurred in the office of Governor, then the Secretary of State shall submit the question in doubt to the judges of the Supreme Court, who, or a majority of whom, shall investigate and determine said question; and shall furnish to the Secretary of State an opinion determining the question, which shall be final and conclusive.

The justices of the Supreme Court shall be appointed for and from each district, but the removal of a justice to the capital shall not render him ineligible to succeed himself. The Supreme Court clerk shall be elected by the people for four years (not appointed, as heretofore).

The following new provisions were made regarding education:

Separate schools shall be maintained for children of the white and colored races.

It shall be the duty of the Legislature to provide by law for the support of institutions for the education of the deaf, dumb, and blind.

There shall be a common-school fund, which shall consist of the poll tax (to be retained in the counties where the same is collected) and an additional sum

from the general fund in the State treasury sufficient to maintain the common schools for the term of four months in each scholastic year; said sum shall be distributed among the several counties in proportion to the educable children in each, but any county or separate school district may levy further tax to maintain its schools for a longer time than the term of four months.

Corporations shall be formed under general laws only, which laws may from time to time be altered or repealed; and no charter for any private corporation for pecuniary gain shall be granted for a longer period than ninety-nine years.

The property of all private corporations for pecuniary gain shall be taxed in the same way and to the same extent as the property of individuals, but the Legislature may provide for the taxation of banks and banking capital by taxing the shares according to the value thereof, augmented by the accumulations, surplus, and unpaid dividends, exclusive of real estate, which shall be taxed as other real estate is.

The power to tax corporations and corporation property shall never be surrendered nor abridged by any contract or grant to which the State or any political subdivision thereof may be a party, except that the Legislature may make such contracts in the encouragement of manufactures and other new enterprises of public utility extending for a period not exceeding five years, the time of such exemptions.

No county, city, town, or other municipal corporation shall hereafter become a subscriber to the capital stock of any railroad or other corporation, or association, or make appropriation or loan its credit in aid of such corporation or association.

The rolling stock, movable and other property belonging to any railroad company or corporation in this State shall be liable to execution and sale in the same manner as the property of individuals.

No railroad or other transportation company shall grant free passes or tickets, or passes or tickets at a discount, to members of the Legislature, or the members of the Board of Equalization, or any State, district, county, or municipal officers.

State convicts shall not be leased or hired to any person or corporation after the first day of January, 1895, nor for a term that shall extend beyond that date, and the Legislature shall provide as soon as practicable before said date for the custody and employment of said convicts, under the exclusive control and management of the State.

The existing penitentiary, in the city of Jackson, on or before the date named in the first section of this article, shall be abandoned as a prison, and the Legislature shall make timely provision for the establishment and maintenance of a penitentiary farm, or farms, for the reformation and punishment of penitentiary convicts, and may provide for the carrying on of such industries therein as may be deemed wise and proper, as well as the cultivation of food and other agricultural products; and the Legislature may provide for the working of said convicts in such other manner as may be deemed expedient, not inconsistent with the first section of this article.

The Legislature shall provide by law for the management of such penitentiary farm or farms by a board of control or otherwise; for the maintenance of a reformatory school; for commutation of sentence on account of good behavior; for the constant separation of the sexes, and for religious worship; for the separation of the whites and blacks as far as practicable; and for the keeping of juvenile offenders from association with hardened criminals.

The political year of the State shall commence on the first Monday of January in each year.

The Legislature shall have full authority to provide for the maintenance of a system of levees embracing such territory as it shall deem proper, and to provide for a suitable system of taxation for that purpose.

For a period of ten years from the date of the adoption of this Constitution there shall be no taxation of money loaned at interest where the rate of interest charged does not exceed seven per cent. per annum.

The marriage of a white person with a negro or mulatto, or person who shall have one eighth or more of negro blood, shall be unlawful; and such marriage shall be void.

A general election for all elective officers shall be held on the Tuesday next after the first Monday of November, A. D. 1895, and every four years thereafter; provided the Legislature may change the day and date of general elections to any day and date in October, November, or December.

A general election shall likewise be held on the first Tuesday after the first Monday in November, 1891, for three railroad commissioners and for members of the Legislature, district attorneys, and county officers, whose terms shall expire Jan. 1, 1892.

As no general election of the principal State officers is provided for until November, 1895, an ordinance was passed extending until Jan. 1, 1896, the terms of the Governor, Lieutenant-Governor, Secretary, Treasurer, Auditor, Attorney-General, and Superintendent of Education.

Amendments to the Constitution must be approved by two thirds of each branch of the Legislature, and must receive a majority of the popular vote.

An ordinance was adopted introducing the Australian ballot system in all except Congressional elections, such ordinance being irrevocable before Jan. 1, 1896.

It was decided that the convention had authority to establish the Constitution as the law of the State without submitting it to the people, and it was accordingly promulgated by that body as the Constitution of Mississippi on and after Jan. 1, 1891.

Political.—There was no election for State officers this year in November.

Seven Democrats were elected to Congress from the seven districts.

MISSOURI, a Western State, admitted to the Union Aug. 10, 1821; area, 69,415 square miles. The population, according to each decennial census since admission, was 140,455 in 1830; 383,702 in 1840; 682,044 in 1850; 1,182,012 in 1860; 1,721,295 in 1870; 2,168,380 in 1880; and 2,679,184 in 1890. Capital, Jefferson City.

Government.—The following were the State officers during the year: Governor, David R. Francis, Democrat; Lieutenant-Governor, Stephen H. Claycomb; Secretary of State, Alexander A. Lesueur; Auditor, James M. Seibert; Treasurer, Edward T. Noland, deposed from office on March 4 and succeeded on March 12 by Lon V. Stephens; Attorney-General, John M. Wood; Register of Lands, Robert McIlloch; Superintendent of Public Schools, William E. Coleman; Railroad Commissioners, William G. Downing, John B. Breathitt, T. J. Hennessy; Chief Justice of the Supreme Court, Robert D. Ray; Associate Justices, Thomas A. Sherwood, Francis M. Black, Theodore Brace, and Shepard Barclay.

Finances.—Under a provision of the State Constitution, at least \$250,000 of State indebtedness must be retired annually. During 1890 but \$218,000 of State bonds matured, and in order to comply with the requirements of the Constitution the Treasurer, with the approval of the Governor and Attorney-General, purchased \$32,000 of State bonds on the market. There will be no maturities during 1891, and only \$185,000 will mature during 1892.

The public debt has been reduced \$992,000 during the past two years. The total outstanding bonded debt on Dec. 31, 1890, was but \$8,533,000, of which \$1,533,000 bears interest at the rate of 6 per cent., and the remaining \$7,000,000 at 3½ per cent. The school and seminary funds, represented by State certificates of indebtedness, then contained \$3,683,000, of which \$3,042,000 bears 6 per cent. interest, and the remainder, \$641,000, bears 5 per cent. Of this indebtedness \$3,143,000 belongs to the State school fund and \$540,000 to the State seminary fund. The total annual interest of the State amounts to \$551,550. There was a balance to the credit of the sinking fund on Dec. 31, 1890, of \$453,168.49.

The last General Assembly fixed the rate of taxation for interest and sinking fund at 10 cents on the \$100 instead of 20 cents, which had been the rate theretofore, and thereby reduced the total rate of State taxation from 40 to 30 cents on the \$100. The revenue derived under this rate has been sufficient to pay the expenses of the State Government and the interest on the public debt.

On Jan. 1, 1889, there was a balance on hand of \$587,495.33. The total actual receipts into all funds for the two fiscal years ending Dec. 31, 1890, were \$7,151,365.91, and the total actual disbursements were \$6,834,377.37, leaving a balance Dec. 31, 1890, of \$904,483.87, of which amount \$453,168.49 is in the sinking fund and \$180,997.73 in the revenue fund.

The disbursements from the revenue fund for the two years were \$2,759,795.79, and the amount of taxes received was \$6,141,431.48.

The assessed valuation of taxable property, which was \$789,692,245.38 in 1888, was increased by the State Board of Equalization to \$865,691,803.44 in 1890.

Population.—The population of the State by counties, as ascertained by the national census of this year, is compared with the population for 1880 in the following table:

COUNTIES.	1880.	1890.	Increase.
Adair	15,190	17,417	2,227
Andrew	16,818	16,000	• 818
Atchison	14,556	15,588	977
Audrain	19,732	22,074	2,342
Barry	14,405	22,948	5,538
Barton	10,332	15,564	5,172
Bates	25,381	32,223	6,842
Benton	12,896	14,978	2,077
Bollinger	11,130	13,121	1,991
Boone	25,422	26,048	621
Buchanan	49,792	70,100	20,308
Butler	6,011	9,964	3,953
Caldwell	13,646	15,152	1,506
Callaway	26,670	25,131	1,461
Cameron	7,266	10,440	2,774
Cape Girardeau	20,998	22,060	1,062
Carroll	28,274	25,742	2,468
Carter	2,168	8,799	6,631
Cass	22,431	23,301	870
Cedar	10,741	15,020	4,279
Charlton	25,224	26,254	1,030
Christian	9,628	14,017	4,389
Clarke	15,081	15,126	95
Clay	15,572	19,826	4,254
Clinton	16,073	17,138	1,065
Cole	15,515	17,281	1,766
Cooper	21,596	22,707	1,111
Crawford	10,756	11,061	1,205
Dade	12,557	17,526	4,969
Dallas	9,263	12,647	3,384
Dayton	19,145	20,456	1,311
De Kalb	13,384	14,539	1,205

COUNTIES.	1880.	1890.	Increase.
Dent	10,646	12,149	1,508
Douglas	7,738	14,111	6,378
Dunklin	9,604	15,065	5,461
Franklin	26,534	28,056	1,522
Gasconade	11,138	11,706	568
Gentry	17,176	19,018	1,842
Greene	26,801	48,616	19,815
Grundy	15,185	17,876	2,691
Harrison	20,804	21,068	229
Henry	23,006	23,225	4,829
Hickory	7,287	9,448	2,066
Holt	15,509	15,469	• 40
Howell	18,428	17,371	• 1,057
Howell	8,514	18,618	9,804
Iron	8,183	9,119	936
Jackson	82,825	160,510	78,185
Jasper	32,019	50,500	18,481
Jefferson	18,736	22,434	3,748
Johnson	28,172	28,182	• 40
Knox	13,047	18,501	454
Laclede	11,524	14,701	3,177
Lafayette	25,710	30,134	4,474
Lawrence	17,253	26,228	8,645
Lewis	15,925	15,955	10
Lincoln	17,426	18,346	920
Linn	20,016	24,121	4,105
Livingston	20,196	20,668	472
Macon	26,222	30,575	4,353
Madison	6,576	9,289	2,992
Marion	7,804	8,600	1,296
Marion	24,887	26,238	1,896
McDonald	7,216	11,389	8,467
Mercer	14,678	14,561	• 92
Miller	9,845	14,162	4,317
Mississippi	9,270	10,134	864
Moniteau	14,346	15,680	1,254
Monroe	19,071	20,790	1,719
Montgomery	16,249	16,850	601
Morgan	10,182	12,811	2,179
New Madrid	7,094	9,817	1,623
Newton	18,947	22,108	3,161
Nowataway	28,544	30,914	1,970
Oregon	6,791	10,257	4,466
Osgood	11,824	13,080	1,256
Ozark	5,618	9,795	4,177
Pemiscot	4,299	5,975	1,676
Perry	11,895	13,287	1,342
Pettis	27,271	31,151	3,880
Phelps	12,568	12,696	65
Pike	26,715	26,821	• 894
Platte	17,366	16,248	• 1,118
Polk	15,754	20,359	4,605
Pulaski	7,510	9,387	2,187
Putnam	13,555	15,385	1,810
Ralls	11,888	12,294	456
Randolph	22,751	24,898	2,149
Ray	20,190	24,215	4,025
Reynolds	5,722	6,638	911
Ripley	5,377	8,382	2,956
Saline	29,911	38,762	8,851
Schuyler	10,470	11,249	779
Scotland	12,508	12,674	166
Scott	8,567	11,226	2,641
Shannon	8,441	8,718	3,377
Shelby	14,024	15,642	1,618
St. Charles	23,065	22,977	• 88
St. Clair	14,125	16,747	2,622
St. Francois	13,822	17,347	3,525
St. Genevieve	10,890	9,583	• 507
St. Louis city	350,518	451,770	101,252
St. Louis	81,588	86,807	4,419
Stoddard	13,431	17,357	5,896
Stone	4,404	7,000	2,666
Sullivan	16,569	10,000	2,431
Taney	7,529	7,978	2,374
Texas	12,206	19,406	7,200
Vernon	19,369	31,505	12,136
Warren	10,806	9,918	• 888
Washington	12,896	18,138	267
Wayne	9,096	11,727	2,631
Webster	12,175	15,177	3,002
Worth	8,203	8,788	535
Wright	9,712	14,484	4,772
Total	2,168,880	2,679,184	510,504

• Decrease.

County Debts.—The total debt of Missouri counties in 1890 was \$9,974,734, a decrease of

\$2,210,669 in ten years. Of this total all but \$640,559 was a bonded debt. Scarcely one third of the counties are without debt.

The Noland Defalcation.—On Feb. 28 Gov. Francis, having received reports indicating that funds of the State were being misapplied, began an examination into the condition of the State treasury. He soon found evidence to confirm his suspicions, and on March 4 suspended State Treasurer E. T. Noland from office.

On the following day the Governor appointed a committee to examine the condition of the treasury at the time of the suspension and to report the result to him. This committee met at Jefferson City on March 7. On the same day the suspended Treasurer handed his resignation to the Governor. The committee completed its labors on the night of March 12, and submitted the following report:

We find upon examination that the total amount in the treasury at the close of business of March 4, 1890, was \$1,517,394.13, distributed as follows:

Cash and cash items in vault.....	\$13,350 10
In the Union National Bank of Kansas City.....	221,956 66
In the First National Bank of Kansas City.....	141,739 73
In the First National Bank of Jefferson City.....	74,275 80
In the Exchange Bank of Jefferson City.....	75,754 72
In the Kansas City State Bank of Kansas City.....	358,086 92
In the Franklin Bank of St. Louis.....	582,221 06

Total..... \$1,517,394 13

We further certify that, upon a careful examination, we found that the books of the Auditor and those of the Treasurer, after making allowance for 7 outstanding warrants aggregating \$7,272.77, agree in every particular as to the amount that should be in the Treasury. According to said books, there should have been in the Treasury at the close of business on March 4, 1890, \$1,550,139.52, and that consequently there is a deficit of \$32,745.39 due from E. T. Noland, as State Treasurer of the State of Missouri.

The Governor at once notified Mr. Noland and his bondsmen of the shortage, and demanded that it be made good. The bondsmen signified their intention to restore the money, and by May 31 they had paid to the treasury the entire amount, with interest. On March 12 the Governor appointed Lon V. Stephens to be State Treasurer for the unexpired term ending in January, 1893.

At the May term of the Cole County Circuit Court E. T. Noland was indicted for embezzlement of State funds, and his trial was set for Dec. 15, 1890. On Dec. 17 the case was continued until the first Tuesday in January, 1891.

Education.—For the school year ending in 1889 the following statistics are reported by the State Superintendent: White children of school age, 816,886; colored children of school age, 44,478; total, 865,364; white children enrolled in the public schools, 579,373; colored children enrolled, 32,168; total enrollment, 611,541; average attendance each day, 376,977; male teachers employed, 6,195; female teachers, 7,439; total number of teachers, 13,634 (of whom 12,948 were white and 686 colored); average monthly salary of all teachers, \$42.31; number of white schools in operation, 9,178; number of colored schools in operation, 509; total, 9,687; number of school districts, 9,240; total value of school property, \$10,972,161. The receipts and expenditures for schools during the year, as reported by the county commissioners, are summarized as follow:

Cash on hand July 1, 1888, \$1,138,943.15; tuition fees received, \$26,341.78; income derived from public funds, \$1,236,343.13; from railroad tax, \$284,669.88; from local taxation, \$3,493,651.19; total receipts, \$6,143,249.13; paid to teachers, \$3,220,263.87; for incidentals, \$746,255.32; to district clerks, \$60,135.59; for sites, buildings, furniture, and apparatus, \$340,572.93; for repairs and rent, \$168,788; for bonds and interest, \$214,907.98; for library, \$16,447.39; total expenditures, \$4,767,371.08; balance on hand July 1, 1889, \$1,375,878.05.

The permanent public-school funds on July 1, 1889, were as follow: State school fund, \$3,140,853; university or seminary fund, \$540,095.08; county public school fund, \$3,021,695.26; township public school fund, \$3,317,960.91; special public school fund, \$45,232.86; total, \$10,665,837.11.

The State Superintendent, in his report for 1889, says: "The last General Assembly increased the school term from four to six months. While the term was four months many districts were satisfied to expend the public moneys derived from State, county, and township funds and not tax themselves one cent for school purposes; but now that the schools must be maintained six months to entitle them to these public moneys, they will have to pay a liberal school tax in order to meet this legal requirement. . . . The law on teaching the evil effects of alcoholic stimulants and narcotics upon the human system is a farce and fraud. It is virtually a prohibition against temperance instruction in the public schools. It should be repealed or amended. . . . The law should specify definitely in what language the instruction in our public schools is to be given. It is a disgrace to American institutions to have the English language ruled out of our public schools and German substituted, as it is done wholly or in part in many districts.

At the State normal schools the enrollment during the year was as follows: At Kirksville, 505 pupils; at Warrensburg, 739; at Cape Girardeau, 301. There were also 52 pupils in the normal department of the Lincoln Institute at Jefferson City. At the State University the attendance for the year was 580 students, being larger than ever. The School of Mines, at Rolla, has about 60 students.

Penitentiary.—On Jan. 1, 1889, the number of prisoners in the Penitentiary was 1,831. On Dec. 31 the number had increased to 1,860, and on Dec. 31, 1890, it had decreased to 1,686. The number of commitments, which was 840 in 1888 and 814 in 1889, was only 634 in 1890. The following table presents a summary of the finances of the institution for the past two years, compared with the two years preceding:

ITEMS.	1887-'88.	1889-'90.
Daily average cost of each inmate.....	\$0 36-00	\$33 75
Earnings from contract labor.....	\$309,536 78	\$355,000 14
Daily average earnings.....	\$0 25-26	\$0 27-36
Total cost of maintenance.....	\$441,045 27	\$399,498 17
Average of convicts employed by contract.....	974	1,122
Revenue per day.....	\$497 65	\$578 11

Reformatories.—The Reform School for Boys, at Booneville, is flourishing, with 107 in-

mates. The board asks for the erection of several additional buildings, which the increase of the commitments and the proper care of the boys justify.

The law regulating the commitment of girls to the Industrial Home at Chillicothe requires that a girl should be convicted of a crime before she can be sent to the home. The number of inmates at present is 9, and there have been only 11 altogether since the opening of the home in January, 1889.

Militia.—The militia is maintained without expense to the State, through the appropriation of ordnance and quartermaster supplies made by the United States Government, and by the liberal contributions of public-spirited citizens. The Federal Government gives to the State annually about \$15,000 in clothing, equipments, and ordnance stores, on condition that the organization numbers 1,600 enlisted men, or at least 100 for every Representative that Missouri has in the national Congress. There are on the rolls about 1,900 men, 14 new companies having been organized, and 2 companies and 1 troop of cavalry disbanded, during the past two years.

The cadet corps of the State University, authorized by an act of the last Legislature, was organized in September, 1890, and is in the most flourishing condition, numbering 172 members.

Railroads.—The total railroad mileage of the State is 8,977.37. The mileage constructed in 1890 was 84.94.

Political.—On June 11, a Democratic State convention met at St. Joseph, and nominated the following candidates for State offices: For Justice of the Supreme Court, James B. Gantt; for Superintendent of Public Instruction, Lloyd E. Wolfe; for Railroad Commissioner, Henry W. Hickman. A disposition to seek the favor of the Farmers' Alliance was shown by the nomination of Messrs. Wolfe and Hickman, both of whom were members of that order, the latter being president of its State organization.

The platform declares:

We are in favor of the free and unrestricted coinage of silver, and the increase of the volume of currency to meet the legitimate demand of trade.

The public land, the heritage of the people, should be held for actual settlers only, not another acre to railroads or speculators, and all land now held for speculative purposes should be taxed at its just value.

The Democracy of Missouri favors the purity of the ballot, the passage and enforcement of all laws which insure honest elections and the amendment of the election law known as the Australian ballot system passed by the last General Assembly of the State, so that it may apply to all the counties, and permit any political party or any individual to place a ticket in the field without having given a previous expression at the polls.

We denounce the combinations and trusts by which the price of school books is largely increased above a reasonable cost, and we favor such legislation as will free the people from their grasp, and give the school books to the children of the State at a reasonable cost.

The Republican State Convention met at Jefferson City on Aug. 28, and placed the following ticket in the field: For Justice of the Supreme Court, Alexander W. Mullins; for Superintendent of Public Instruction, Frank P. Seever; for Railroad Commissioner, James K. Merrifield. The resolutions include the following:

We indorse the action of Congress in its liberal appropriations for the improvement of the navigable rivers of Missouri, and ask that the same liberal spirit may characterize future legislation, to the end that the products of the State may secure the cheapest possible transportation to the markets of the country.

We denounce the inefficiency of the Democratic State Government in its judicial branch, which withholds justice from our citizens because of the length of time necessary to have a cause passed upon by the Supreme Court, and we demand that the constitutional guarantee that each citizen shall be accorded justice without delay be enforced, and if placed in power, we pledge ourselves to accomplish that result.

We call the attention of the tax payers of the State to the fact that the officers of the State intrusted with the preservation of the funds in our treasury have made the credit and funds of the State an instrument with which to retain control of the State Government, until we now have, for the second time since the advent of the Democratic party into power, a defaulter going unpunished, the law violated, and yet the tax payers are still asked to subscribe to and vote the Democratic ticket.

The Prohibitionists met in State convention at Kansas City on Oct. 2, and nominated a party ticket containing the following candidates: Reuben D. Robinson for Justice of the Supreme Court, Julius C. Hughes for Superintendent of Public Instruction, and William S. Crouch for Railroad Commissioner. A platform was adopted.

The candidates of the Union Labor party were Orville D. Jones for Justice of the Supreme Court, Robert S. Brownlow for Superintendent of Public Instruction, and Samuel F. Boyden for Railroad Commissioner.

At the election in November the Democratic candidates received large pluralities. The vote for Justice of the Supreme Court was: Gantt, 250,011; Mullins, 188,223; Jones, 25,114; Robinson, 988. For Superintendent of Public Instruction the plurality of Wolfe was 61,831, and for Railroad Commissioner the plurality of Hickman was 64,412. Members of the State Legislature were elected as follow: Senate, Democrats 25, Republicans 8, Union Labor 1; House, Democrats 106, Republicans 23, Union Labor 2, Independent 9. The constitutional amendment, increasing the number of members of the State Supreme Court from five to seven and separating the court into two divisions, was adopted by a veto of 168,645 yeas to 149,809 nays. Pursuant to its provisions the Governor appointed John L. Thomas and George B. MacFarlane to be the additional justices, their term beginning Jan. 1, 1891. Each of the 14 congressional districts chose a Democratic Representative.

MONTANA. a Western State, admitted to the Union Nov. 8, 1889; area, 146,080 square miles; population, according to the census of 1890, 132,159. Capital, Helena.

Government.—The following were the State officers during the year: Governor, Joseph K. Toole; Lieutenant-Governor, John E. Rickards; Secretary of State, Louis Rotwitt; Treasurer, Richard O. Hickman; Auditor, E. A. Kenney; Attorney-General, Henri J. Haskell; Superintendent of Public Instruction, John Gannon; Chief Justice of the Supreme Court, Henry N. Blake; Associate Justices, William H. DeWitt and E. N. Harwood. These officers are all Republicans except the Governor.

Population.—The following table presents the population of the State by counties, as ascertained by the national census of this year, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Beaver Head.....	2,712	4,655	1,943
Cascade.....	.....	8,755	8,755
Choteau.....	5,058	4,741	1,688
Custer.....	2,510	5,308	2,798
Dawson.....	180	2,056	1,876
Deer Lodge.....	8,876	15,155	6,279
Fergus.....	.....	3,514	3,514
Gallatin.....	3,648	6,246	2,608
Jefferson.....	2,464	6,026	3,562
Lewis and Clarke.....	6,521	19,145	12,624
Madison.....	3,915	4,692	777
Meagher.....	2,748	4,749	2,006
Missoula.....	2,387	14,427	11,800
Park.....	.....	6,881	6,881
Silver Bow.....	.....	28,744	28,744
Yellowstone.....	.....	2,065	2,065
Total.....	89,159	182,159	93,000

Finances.—The balance in the treasury on Jan. 1 was \$33,251.54. During the year about \$350,000 was received from the State tax levied in 1889 and from miscellaneous sources, but only a part of it was disbursed, on account of the failure of the Legislature of 1890 to pass appropriation bills. Only such sums were paid out of the treasury as the Territorial statutes, which still remained in force, would justify. Nothing could be paid for the support of the State Penitentiary, or the State charitable institutions, or in salaries to members of the Legislature. The State institutions were kept in operation, however, and supplies were furnished on the faith that the next Legislature would reimburse the advances. Under these circumstances, the balance in the treasury increased to \$187,181.49 on Dec. 31, while there were claims outstanding at the same date amounting to \$167,810.95.

The total assessed valuation of property, which was \$79,376,944 in 1889, increased to \$116,767,204 in 1890. The valuation of real property (including railroad property) was \$68,256,914, and of personal property, \$48,510,290. The rate of State taxation in 1890 was 20 cents on each \$100.

County Debts.—The total debt of Montana counties in 1890 was \$1,037,150, an increase of \$1,258,538 in ten years. Of this total all except \$218,736 was a bonded debt. No county in the State is free from debt.

Legislative Session.—The first State Legislature, which assembled at Helena on Nov. 23, 1889, failed to pass a single act during its session of ninety days. This failure was caused by a dispute regarding the election of members of the Lower House from Silver Bow County, which led, at the outset of the session, to the assembling of two bodies, each claiming to be the House, and to the subsequent election of four persons claiming to be United States Senators (see "Annual Cyclopædia" for 1889, page 571). At the beginning of this year there was pending in the local district court, before Judge De Wolfe, a suit against State Auditor Kenney, in which the relative rights of the rival delegations from Silver Bow County were indirectly involved. The suit was brought by Roberts, one of the Democratic claimants from that county, to compel the Auditor to issue to him a warrant for his salary as a member of the House, and was decided early in

January substantially in favor of the plaintiff. The case did not reach the State Supreme Court, and was therefore not conclusive. But late in January the questions in dispute were brought before the latter court in the case of Thompson vs. Kenney. This was a suit against the State Auditor by one of the Republican claimants from Silver Bow County, demanding, as in the former case, that the claim of the plaintiff for *per diem* and mileage as a member of the House be allowed and audited. It was expected that the relative value of the certificates issued by the State Board of Canvassers, which the Republican claimants from Silver Bow County held, and the county clerk's certificates held by the Democratic claimants would be conclusively decided in this case. But the court, in its opinion, rendered on Jan. 27, was careful to renounce all jurisdiction or authority to try the ultimate right of the plaintiff to a seat in the House, and conceded to that body the sole right to judge of the qualifications and election of its own members, the only duty of the court being to decide what constitutes sufficient *prima facie* evidence of membership in the House to entitle the plaintiff to the relief which he asks. The court says:

It is contended by the respondent that a statute of the Territory, existing prior to the act of Congress admitting Montana, and prior to the acceptance of the Constitution, provided contrary to the act of Congress and the Constitution and ordinances above quoted, in that this statute provides that the canvass of the votes cast for members of the Legislative Assembly shall be made by the boards of county commissioners of the respective counties in the Territory and certificates of election shall be issued by the clerk of the board of county commissioners. This position is untenable. There is no statute of the Territory of Montana brought over and adopted by the people of this State contrary to or in conflict with the Constitution thereof, for this plain reason: It is provided by the act of Congress above quoted, enabling the people of said Territory to form a constitution and State government, that "all laws in force, made by said Territories at the time of their admission into the Union, shall be in force in said States, except as modified or changed by this act, or by the constitutions of the States respectively." To declare that the county clerk's certificate of election to the office in question is the highest *prima facie* evidence of title to the office as against the certificate of the canvassing board constituted by the act of Congress, and the ordinance framed by the Constitutional Convention and adopted by the people, would be in effect to declare that the provisions of the statute in this respect stand without modification by the act of Congress and Constitution and ordinances, and prevail over them.

It was therefore decided that the plaintiff had the better *prima facie* title, and was entitled to have his claim audited. It would seem to follow, also, from this decision that if the Lower House should at any time reach a valid decision ousting the plaintiff from his seat, his right to the salary would then cease. The Democrats regarded this decision as settling nothing except the right of the Republican claimants to draw pay, until a House legally organized should decide who were its members. They saw no reason for yielding to their opponents, and the rival Houses, each containing thirty members, continued their separate sessions and pretended to do business.

Meanwhile, in the Senate no business had been transacted, the eight Democratic Senators either

absenting themselves and thereby preventing a quorum, or, when present, occupying the time by calling for the yeas and nays on every motion, and then refusing to respond to their names. Their intention was to prevent the transaction of any business, until the dispute between the rival Lower Houses had been settled. This condition continued until Feb. 5, when Lieut.-Gov. Rickards (President of the Senate and a Republican), following the example of Speaker Reed, of the national House of Representatives, ruled that thereafter the Senators present and refusing to vote would nevertheless be counted in making a quorum. This would enable the eight Republican Senators to transact business so long as one Democratic Senator was present. As the Senate had power to compel the attendance of absent members, the only way for the Democratic Senators to block legislation was by fleeing the State. Accordingly, on the afternoon of Feb. 5 the eight Democratic members took the first train from Helena out of the State, six going to the Pacific coast and two going east to St. Paul. They remained beyond the State borders until after Feb. 20, on which day the session of the Legislature expired by constitutional limitation.

Education.—The following figures, showing the condition of public schools for the school year ending in 1890, do not include the counties of Madison and Jefferson: Children of school age, 25,172; number attending public schools, 15,273; number of teachers employed, 465; number of schools, 299; average monthly wages of teachers, \$56. At the close of the school year ending Aug. 31, 1889, the several counties had on hand \$64,761.78; the total amount received for school purposes from taxation and other sources during the year ensuing was \$569,521.91; there was paid to teachers \$215,578.02; for school apparatus, \$6,807.16; library, \$276.87; school houses, sites, etc., \$88,643.50; other expenses, \$32,079.59; balance on hand, Aug. 31, 1890, \$244,119.97.

During the year 47 school districts observed Arbor Day, and 250 trees were planted. The compulsory clause of the school law has not been generally observed, but no prosecutions have been instituted under it.

Charities.—The insane of the State are supported under a contract between the Territory of Montana and Drs. Mitchell and Missigbrod, at Warm Springs, Deer Lodge County, at \$8 a week, making an expense to the State of about \$75,000 a year. The number is increasing rapidly, the last report showing 200 patients maintained at public expense. The contractors have received nothing from the State in payment under their contract since Jan. 8, 1889. Consequently \$77,380.61 is due them.

The State is also supporting 5 deaf and dumb children, 1 blind child, and 5 feeble-minded children, at institutions outside the State. Each of these children costs the State \$300 a year.

Penitentiary.—The Penitentiary at Deer Lodge, formerly belonging to the United States, has become the property of the State. Its capacity is about 140 men, but on Dec. 30 the number confined therein was 240. There was due at that time for its maintenance \$44,901.90.

Mining.—According to the report of Wells, Fargo & Co., the precious metals produced in

Montana in 1890 amounted to \$34,814,455, of which \$2,764,116 was the value of the gold product, and \$32,050,339 of the silver.

Railroads.—The number of miles of railroad in the State, assessed by the State Board of Equalization in 1890 was 1,718.7, and the valuation \$6,484,082. Several roads in the State are wholly within one county, and are consequently not assessed by the State board.

Political.—A Congressman and half of the State Senators were to be chosen at the November election of this year. No election for members of the Lower House of the Legislature was held, owing to an oversight of the Constitution makers in failing to insert a provision therefor in the new Constitution. The members of the Lower House elected in 1889 will therefore hold over until 1893. Each of the political parties held a State convention to nominate a Congressional candidate. The Labor party, in State convention, in August, nominated William T. Field. On Sept. 11, the Republican State Convention, at Butte, renominated Congressman Carter by acclamation. This convention adopted resolutions, in which, on local issues, the following declarations were made:

We demand that no patents be issued to the Northern Pacific Railroad until it shall have been established by undisputable affirmative proof that the lands which it claims are non-mineral.

We insist that the lands granted to Montana for educational purposes shall be scrupulously preserved, sold only to actual settlers, and the proceeds strictly devoted to carrying out the objects of the endowment.

We favor stringent measures of legislation for the protection of the lives of miners, and insist that the statutes for that purpose, enacted by a Republican Legislative Assembly of Montana, be made effective by the appointment of a fit and capable citizen as inspector of mines.

We claim for the Republican party of Montana that, in the passage of the registration law and the Australian voting system, it has proved itself to be the champion of the freedom and purity of the elective franchise.

We congratulate the people of Montana upon the defeat of the monstrous fraud that was attempted by the Democratic party at Precinct 34 of Silver Bow County. It has passed beyond the domain of discussion or doubt that the returns from that precinct were wholly fraudulent, and the thanks of all honest citizens are due to the Republican canvassers of Silver Bow County, the State Board of Canvassers, the Supreme Court, and the Republicans in the Senate of the United States, for effecting the overthrow of this criminal and iniquitous conspiracy. We declare it to be the firm purpose of the Republican party that henceforth elections in Montana shall be honest expressions of the will of the people, and that all attempts at fraud upon the ballot box shall be prosecuted until the prison doors shall have closed upon the offenders.

We arraign as a tyrannical and revolutionary usurpation of power the attempt of Gov. Toole to violate the constitutional right of the House of Representatives of the Legislative Assembly to judge of the election, return, and qualification of its own members, by designating, without right or authority, the place where it should meet, keeping the hall so designated under lock and key and a guard stationed at the entrance with instructions to admit none who were not provided with credentials issued in violation of the express provisions of the Constitution.

We applaud, with enthusiastic approval, the firm and manly action of the Republican members of the late Legislative Assembly, and condemn the course of the Democratic members, who, for narrow partisan purposes, prevented the legislation that was greatly

needed to put in operation the machinery of the State Government, deprived laborers of their just wages, left our public institutions without funds to defray their necessary expenses, embarrassed all the functions of Statehood, and worked irreparable damage to the substantial interests and to the good name of Montana.

The Democratic State Convention met at Helena, on Sept. 15, and nominated William W. Dixon for Congressman. The platform condemns, in unmeasured terms, the course of the Republican party in the State in seeking to control the Legislature by throwing out the vote of the "tunnel" precinct in Silver Bow County. In October, candidate Field unofficially withdrew his name, but it appeared on the official ballot and attracted supporters at the polls.

The nominee of the Prohibition party for Congressman was Andrew J. Corbley. At the November election the Democratic ticket was successful, Dixon receiving 15,411 votes; Carter, 15,128; Corbley, 389; and Field, 162. Of the 8 State Senators chosen at the same time, the Democrats elected 5 and the Republicans 3. Of the 8 hold-over Senators, 5 were Democrats and 3 Republicans, so that the Senate of 1891 will contain a Democratic majority of 4. At the same time there was an election for a member of the Lower House from Deer Lodge and Beaverhead Counties, a district which was unrepresented in the session of this year, because of a tie vote at the election of 1889. A Democrat was chosen, and the House for 1891 will therefore contain, according to Republican claims, 30 Republicans and 25 Democrats, or, according to Democratic claims, 24 Republicans and 31 Democrats.

MOROCCO, an absolute monarchy in northern Africa. The Sultan, who is the spiritual and temporal ruler, is chosen from the Shereefian family of Hassan, of the tribe of Taflalet, descended from Ali, the uncle and son-in-law of the prophet Mohammed. Muley Hassan, the reigning Sultan, born in 1831, succeeded his father, Sidi Mohammed, on Sept. 17, 1873. The receipts from customs at the eight ports are from 8,000,000 to 12,000,000 francs. The Sultan's revenue is about 7,000,000 francs. Every Moorish subject is required by law to pay the tenth of his annual income in money, natural products, or gifts; but the largest share goes to the officials, who pay the Sultan for their offices, and retain what they collect.

Area and Population.—The empire embraces an area of about 219,000 square miles. Gerhard Rohlf's estimated the population in 1883 at 2,750,000. The generally accepted estimates have made it about 5,000,000, and one published in 1889 is as high as 9,400,000, distributed as follow: In the old kingdom of Fez, 3,200,000; in Morocco, 3,900,000; in Taflalet and Segel-mesa, 850,000; in Sus, Adrar, and the northern part of Draa, 1,450,000. According to the same estimate, the population is divided as to race into 3,000,000 Berbers and Tuaregs; 2,200,000 Shella Berbers; 700,000 nomadic Bedouin Arabs; 3,000,000 Mued Arabs; 300,000 Jews; and 200,000 negroes. Fez, the principal capital, has 140,000 or 150,000 inhabitants, and the city of Morocco has 40,000 or 50,000.

Commerce.—The imports amount to 25,000,000 or 30,000,000 francs a year, and the exports to nearly as much. The trade has grown in re-

cent years. In 1888 cotton goods were imported to the amount of 12,742,000 francs; sugar, 4,303,000 francs; woolens, 1,905,000 francs; tea, 1,419,000 francs; raw silk and silk fabrics, 1,221,000 francs; candles, 755,000 francs; iron and steel goods, 737,000 francs; spices, 288,000 francs; wines and spirituous drinks, 249,000 francs; glassware, 164,000 francs; coffee, 161,000 francs; paper goods, 82,000 francs. The chief exports in 1888 were beans of the value of 7,419,000 francs; Indian corn, 2,916,000 francs; wool, 2,310,000 francs; cattle, 1,264,000 francs; almonds, 1,040,000 francs; eggs, 848,000 francs; gums, 796,000 francs; slippers, 710,000 francs; wax, 435,000 francs; olive oil, 412,000 francs; goat skins and hair, 268,000 francs; dates, 239,000 francs. Of 2,042 vessels, of 612,689 registered tons, that entered the ports of Tangier, Casa Blanca, Mazagan, Larache, Mogador, Safi, and Tetuan in 1888, 394, of 237,390 tons, were French; 735, of 211,994 tons, English; 726, of 136,558 tons, Spanish; 33, of 9,404 tons, German; 92, of 7,423 tons, Portuguese; 41, of 6,246 tons, Swedish or Norwegian; 13, of 1,875 tons, Danish; and 8, of 1,799 tons, of other nationalities. The exportation of wheat, barley, horses, timber, or ivory is forbidden, and cattle can only be exported by special license, which is accorded by treaty to Englishmen and Spaniards. On all other exports heavy duties are levied. Treaties with England, France, and Spain limit the import duties on all articles to 10 per cent.

Rebellion of the Tribes.—It is the custom of the Sultans to reside alternately at Fez and Morocco, spending usually a year or more at each capital. Since he left Morocco in May, 1887, Muley Hassan has resided a part of the time at Fez and the other part at Mequinez, the next largest city in the north. After visiting Tangier in October, 1889, exacting while on his journey large sums of money and quantities of horses and cattle from the semi-independent tribes through whose country he passed, he returned to Fez, whence he removed in June, 1890, after the Ramadan fast was over, to Mequinez. There he organized a campaign against the Berber tribe of Zimmour, inhabiting the mountainous region between Mequinez and Rabat, on the coast, ordering the Kaid or Governors of Charda and Beni Hassan at the same time to attack the Berbers from the north. The expedition encountered no resistance, for after some raids had been made through their country by detached troops of cavalry the Zimmour tribe surrendered and offered to pay a ransom. The Sultan has an army of about 10,000 Askar or disciplined infantry, a number of field batteries officered by Frenchmen, a small body of regular cavalry, and a variable number of undisciplined cavalry. The entire force in late years has seldom exceeded 25,000. When he moves his army goes with him. After he left Fez, and was supposed to have departed for Morocco city, disturbances broke out in his rear. The Ait Youssi Berbers, a large tribe south of Fez, were only waiting for him to leave their part of the country to rebel, and while he continued his march through Zimmour to Rabat, where he was confined for some time with sickness, the Arabs near Wazan, feeling confident that he had definitely left for the south, began to attack and plunder

the people of the Gharb or plains. At a religious festival a handful of the Beni M'Sara, one of the tribes that had been compelled to pay tribute by Muley Hassan in the previous year, attacked fifteen or twenty times their number of Gharb people, who, though armed, fled in a panic, leaving their women, cattle, and property in the possession of the marauders. They continued their raids and robberies, penetrating even into the sacred city of Wazan, and making the road to Fez quite unsafe for traders. Meanwhile the Ait Youssi rose in rebellion and murdered their governor; the Beni M'Guild tribe, which caused the Sultan much trouble in 1888, also rebelled; both the Berber and the Arab mountaineers pillaged and murdered the people of the plains; and the Berbers of the province of Zair made ready to revolt. The Sultan, who had not reached Tedia on his way to the south, on learning the extent of the lawlessness and insurrection, suddenly marched northward again with the intention of punishing and reducing to subjection the rebellious tribes, leaving his son to preserve order in Morocco. He entered Zair before the intended revolt had broken out, and there organized his forces for an attack on the Beni M'Guild and Ait Youssi, having in his unexpected countermarch first inflicted punishment on the Zimmour tribe, which had likewise become unruly again and attacked the camp of his son. He defeated the Zimmour in a battle, and decapitated 80 of the prisoners, an act which struck the other Berber tribes with terror. All the insurgent tribes were filled with consternation by the change in the Sultan's plans, for though the mountaineers can escape the pursuit of the soldiers in their fastnesses, they must abandon their villages, crops, and cattle to the troops. A force was sent to stop the depredations of the Arab mountain tribes further north.

Foreign Relations.—In the spring of 1890 the Sultan received at Fez an imposing embassy from the Emperor of Germany. One of the fruits of this mission was a permission to Germans to export grain, subject to an export duty. A commercial convention with Germany was concluded. The Spanish Government, according to the declaration made by the Marquis de la Vega de Armijo, Minister of Foreign Affairs, in the Cortes, is waiting only till its finances and military and naval resources permit of the fulfillment of its "historical mission" in Morocco to create a Castilian Algeria stretching from the African shore of the Strait of Gibraltar to the Great Atlas. Meanwhile Ceuta is being made a stronger fortress than any in Spain, and forts are to be erected at every favorable position along the bluffs on both sides of the strait. A concession has been obtained from the Sultan to put down submarine cables from Tarifa to Tangier and Ceuta, and from Almeria cables are to be laid to Melilla and other Spanish ports on the coast of Africa. Catalan industries have been established at Tangier, where a Spanish hospital and Spanish schools are in successful operation, and lines of steamers are regularly running between Spanish ports and the coasts of Morocco. On July 20 an affray occurred between Arabs and a Spanish cavalry patrol near the Spanish fortress of Melilla, opposite Malaga. The commandant, when the patrol guard was driven in,

ordered out troops to pursue the Moors, many of whom, as they fled to the mountains, were killed by shells fired from the fort. One Spanish soldier was killed and 3 were wounded. The Spanish minister, who was then at the Sultan's court, which was at Rabat, obtained from the Moorish Government a promise that the Spanish flag should be saluted, the offenders punished, and compensation paid. The Sultan ordered that detachments of regular Moorish troops should be stationed near Melilla and other Spanish fortresses to prevent aggressions of the natives in the future. Muley Hassan, whose power and independence, and therewith the prolongation of barbarism and misrule, depends on the mutual jealousy of the European powers, for not only Spain, Great Britain, and France, but even Austria and Germany are on their guard against any alteration in the *status quo* prejudicial to their separate interests, recently caused the question to be put in all the mosques whether the country should be opened more freely to foreign enterprise or communication or not, and received in every case the expected negative answer, except where the priests humbly replied that he was himself the best judge of the situation.

MUSIC, PROGRESS OF, IN 1890. Before entering upon the record of the year, mention must be made of an opera that was overlooked in noticing the events of 1889: "*Mariska*," by Giacomo dell' Orefice (Turin, Teatro Carignano, in November). As the first musical dramatic effort of the young *maestro*, the work is commendable, and won hearty appreciation on the part of the public, who called the composer before the footlights more than a dozen times, and insisted upon the repetition of several of the numbers. The new creations in the field of dramatic music appeared as follow:

Operas.—By French composers: "*Salambô*," in five acts, by Ernst Reyer, libretto by Camille du Locle, after Flaubert's novel of the same name (Brussels, Théâtre de la Monnaie, Feb. 10), won unqualified success, fully justifying the great expectations entertained of the work and its interpretation.

"*Ascanio*," in six tableaux, by Camille Saint-Saëns, libretto by Louis Gallet, after Paul Meurice's drama "*Benvenuto Cellini*" (Paris, Opéra, March 21), heralded for two years, and continually postponed, the final appearance of this work met with only moderate success. The music shows more learning than inventiveness, without any particular flight of imagination or real dramatic effect. The plot, in which Benvenuto Cellini is the central figure, is very complicated and anything but clear, contributing little or nothing to counterbalance the musical defects: requiring, on the contrary, a very considerable musical power to be kept afloat. The interpretation left much to be desired, nor was the *mise-en-scène* very brilliant. "*Le Pilote*," in three acts, by John Urich, libretto by Armand Silvestre (Monte Carlo, in March); the work, which was favorably received, is not absolutely new, but an enlargement of the one-act opera "*L'Orage*," given at Brussels in 1879.

"*Le Vénétien*," by Albert Cohen, libretto by Philippe Gallet after Byron's poem "The Siege of Corinth" (Rouen, Théâtre des Arts, April 14), met with tolerable success.

"Dante," in four acts, by Benjamin Godard, libretto by Edouard Blau (Paris, Opéra-Comique, May 13). In this opera Dante is not as yet the famous poet, but a young man implicated in political and love intrigues, who at the close resolves to immortalize in the "Divine Comedy" his beloved Beatrice, who has died of a broken heart. In the main the music is suggestive of the old operatic style, and mostly pleasing, though not free from a touch of commonplace.

"Zaire," in two acts, by Veronge de la Nux, libretto by Edward Blau and Louis Besson, after Voltaire's tragedy (Paris, Opéra, May 28), was a complete failure.

"Samson et Delila," by Camille Saint-Saëns, libretto by Ferdinand Lemaire (Paris, Eden-Lyrique, Oct. 31), the first performance in France of this work, which was first given in German, at Weimar, in 1877. It is probably the most satisfactory of the composer's operas.

"Gyptis," by Noël Desjoyaux, libretto by Maurice Boniface and Edouard Bodin (Rouen, Théâtre des Arts, in December), was given with brilliant success.

By German composers: "König René's Tochter," lyric-romantic opera, by Rudolf Fischer, (Ratisbon, in March). "Iolanthe," lyric-romantic opera in three acts, by Wilhelm Mühlendorfer, libretto by the composer, after Henrik Hertz's drama "King René's Daughter" (Cologne, Stadttheater, April 12), conducted by the composer, met with great success, which increased from act to act; especially the third act, with its impressive closing scene, Iolanthe's recovery from total blindness, produced a striking effect. The music is melodious and thoroughly dramatic, the vocal and orchestral parts equally effective.

"Die Almohaden," in four acts, by J. J. Abert, text freely after Don Juan Palon y Coll's drama "The Bell of Almudaina" (Leipzig, Stadttheater, April 13), in every respect a noteworthy production. The composer has depicted the dramatic situations with remarkable aptitude, and succeeded most happily in investing his work with local Spanish and Moorish coloring.

"Helga's Rosen," romantic opera by Rudolf Thomas (Olmütz, Moravia, in April), was well received.

"Die Rose von Strassburg," in four acts, by Victor Nessler, text by Fritz Ehrenberg, after ancient Strassburg poems (Munich, Hoftheater, May 2), barely escaped failure.

"Wein die Krone" and "Der faule Hans," each in one act, by Alexander Ritter (Weimar, Hoftheater, June 8), of Wagnerian tendencies, met with a *succès d'estime*.

Bohemian: "Cervotena stena" (The Devil's Wall), posthumous opera, by Frederic Smetana (Prague, National Theatre, May 12).

In Italy: "Cleopatra," by Bensa (Florence, Teatro Pagliano, Jan. 14). "Catilina," by Copellini (Verona, Teatro Filarmónico, Feb. 8). "Loreley," by Catalani (Turin, Teatro Regio, in February). "Beatrice di Svevia," by Tommaso Benvenuti (Venice, Teatro Fenice, in February). "Mala Pasqua," by Gastaldon (Rome, Teatro Costanzi, in April). "Cavalleria Rusticana," in one act, by Pietro Mascagni (Rome, Teatro Costanzi, in May), won the competitive prize given by the Milanese Publisher Sonzogno, and was performed with great success on several stages

of Italy, and afterward elsewhere, and received much applause. It is the maiden effort of a young composer who lived obscurely at Cerignola, in southern Italy, as *maestro di cappella*, and has now suddenly become famous. "Rudello," by Ferroni, and "Labilia," by Spinelli, likewise in one act and rewarded with prizes (Rome, Teatro Costanzi, in May). "Raggio di Luna," by Franco Lermi (Milan, Teatro Manzoni, in June). "Lina di Monferrato," by Agostino Roche (Alba, Teatro Sociale, in September). "La Zingara di Granata," by Adelalmo Bartolucci (Santarcangelo, in September). "Nerina," by Chiappani (Milan, Teatro Filodrammatico, Oct. 21). "Andrea del Sarto," by Baravalle (Turin, Teatro Carignano, in November). "Fiamma," by Ravera (Alessandria, in November). "Gli Arimanni," by Edouardo Trucco (Genoa, Teatro Paganini, in November). "La Pellegrina," by Clementi (Bologna, Teatro Comunale, in November). "Il Veggente," by Enrico Bosse, and "Editha," by Emilio Pizzi (Milan, Teatro dal Verme). "Ginevra di Monreale," by Bonavia (Malta, Royal Theatre, during the summer).

By Spanish composers: "Giovanna la Pazza," by Emilio Serrano (Madrid, Teatro Real, March 2). "Frei Luiz de Sonzo," by Freitas Gazul (Lisbon, Teatro San Carlos). "Irene," fantastic opera in four acts, by Alfredo Keil (*ibid.*). "Bug Jargal," by José Gama Malcher, libretto after Victor Hugo's novel (Rio de Janeiro, in autumn).

Russian: "Cordelia," by Nicolai Solowiew, libretto after Sardou's drama "La Haine" (Prague, Deutsches Landestheater, Aug. 18), for the first time outside of Russia. The plot, based upon the contests between the Guelphs and Ghibellines at Siena in 1369, abounds in dramatic situations and has inspired the composer with a most effective musical conception. The work was received with applause. "Igor," in a prelude and four acts, by Alexander Borodin, libretto by Stassow (St. Petersburg, Imperial Theatre, Oct. 23). As the composer died before the opera was finished, the last two acts were written from his sketches and motives by Rimsky-Korsakow and Glasunow; the difference of style is unmistakable. Most successful is the treatment of the Tartar element, and the ballet music in the second act produced a decided effect. "Pique-Dame," in three acts, by Peter Tschai-kowsky, libretto by M. Tschai-kowsky after Puschkkin's novel of the same name (St. Petersburg, Imperial Theatre, Dec. 19), was given with brilliant success, finding expression in the most cordial, almost demonstrative, ovations for the composer. Like his older popular opera, "Eugen Onegin," it will undoubtedly become a standard piece.

England and America each supplied one opera. "Thorgim," in four acts, by Frederic H. Cowen, libretto by Joseph Bennett (London, Drury Lane Theatre, April 22), by the Carl Rosa Opera Company. The name given to the opera is that of one of the characters in "Viglund the Fair," one of the "Three Northern Love Stories," by Magnusson and Morris. The stirring pictures of Norse life in the tenth century, presented by Mr. Bennett in his libretto of rare literary merit, may be summarized as follows: Jarl Eric has two sons, Helgi—by his wife Arnora, and Thorgim, who is "love-born." During a progress

through his country King Harald Fairhair visits Eric, and taking a fancy to Thorgrim makes him "kingsman." Three years later, while Harald is holding a council, Thorgrim meets Olof, daughter of Jarl Thorir, and asks her in marriage. But she is promised to Helgi, and, as the king declines to interfere, Thorgrim declares he will serve him no longer, and departs to seek adventures as a Viking. But on the night of the marriage he returns and his men extinguish the lights, enabling him to carry off Olof, who prefers him to the gloomy and pusillanimous Helgi. The librettist has preserved and emphasized the pagan spirit in every detail, and never displayed his mastery of the English language so successfully as in the present instance. The composer, having been provided with ample opportunity for the exercise of his special gifts, has made full use of these, and succeeded better in the set pieces than in the purely dramatic episodes of the opera. The characteristics of Scandinavian music are used sparingly to introduce local color, chiefly in the first act, where the purely picturesque element prevails. Mr. Cowen makes scarcely any use of leading themes, and his recitations are rather conventional; but the wealth of melody, excellent part writing, and picturesque orchestration ought, in a large measure, to compensate for the absence of other desirable qualities. The presentation of the opera by the Carl Rosa Company was very commendable; the cast was not only adequate in itself, but the artists seemed to be interested in their work and appeared at their best. The important work for the chorus was all excellently interpreted.

"*Onti-Ora*," romantic opera, by Gustav Hinrichs (Philadelphia, Grand Opera House, July 28).

Comic Operas.—In France and Belgium: "*Hilda*," in one act, by Albert Millet, libretto by Narrey and Michel Carré, the younger (Paris, Opéra-Comique, Jan. 15).

"*La Revanche de Sganarelle*," by Léon Du Bois (Nantes, in April). "*Les trois Souhaits*," in one act, by Georges Villain, who also wrote the libretto (Paris, Bouffes-Parisiens, in April).

"*La Basoche*," in three acts, by André Messager, libretto by Albert Carré (Paris, Opéra-Comique, May 30); the scene is laid in the time of Louis XII. The plot is complicated, but full of droll situations, to which the music is well adapted; the latter is interspersed with old, well-known popular songs, which had to be repeated in response to clamorous demands.

"*Le Printemps*," in one act, by Alexandre Georges, and "*La Coupe et les Lèvres*," in five acts, by Gustave Canoby, libretto by Ernst d'Hervilly (both at Rouen, Théâtre des Arts, in April).

"*Colombine*," in one act, by Gustave Michiels, libretto by Sarlin (Paris, Opéra-Comique, Oct. 4). "*Benvenuto Cellini*," by Eugène Diaz, libretto by G. Hirsch (ibid., Dec. 3). "*L'Amour vengé*," by Maupeau, libretto by Angé de Lassus (ibid., Dec. 31). "*Le Reître*," by Charles Melant, libretto by Manuel Le Rouge and André Thomas (Namur, in December).

In Germany: "*Der Page*," in one act, text and music by Gustav Kulenkampff (Bremen, Stadttheater, Jan. 24), the composer's first dramatic effort, showing talent equal to greater

tasks. "*Der Prinz wider Willen*," by Otto Lohse, libretto by Rudolf Seuberich (Riga, Stadttheater, Feb. 27). "*Die heimliche Ehe*," text and music by Peter Gast (Dantsic, Stadttheater, in March). "*Der Dorfrichter*," in one act, by Hugo Kahn, text after Kleist's play "*Der zerbrochene Krug*" (Breslau, Stadttheater, April 3). "*Der Weiberkrieg*," in three acts, text and music by Felix von Woyrsch (Hamburg, Stadttheater, April 12). "*Der Alkalde von Burgos*," by Hans Dütschke, libretto by K. Galle (Burg near Magdeburg, in April).

"*Nächtliche Werbung*," in one act, by Richard Mandl, libretto by A. Larssonneur, German version by Oscar Berggren (Prague, Deutsches Landestheater, April 16), given last year under its original French title, "*Rencontre imprévue*," at Rouen. "*Die Strassensängerin*," in one act, by Johannes Doeber, libretto by Julius Bachmann (Gotha, Hoftheater, in April). "*Die Fürstin von Athen*," in two acts, by Friedrich Lux, libretto by Wilhelm Jacoby, after a comedy of Aristophanes (Frankfort, Stadttheater, Oct. 31). "*Der Thurm mit sieben Pforten*," in one act, by A. Felkl, libretto by F. Schaumann (Prague, Deutsches Landestheater, Dec. 13). "*Des Königs Schwert*," in three acts, by Theodor Hentschel, libretto by Franz Bittong (Bremen, Stadttheater, Dec. 25).

In Italy: "*La Regina Seino*," by Anacharsis Prestreau, libretto by Jack Ferni, Italian version by Gollisciani (Naples, Teatro Sanmazzaro, in April). "*Le Damielle di Saint-Cyr*," by Cesare Fachini, libretto after Scribe's comedy "*Les Dames de Saint-Cyr*" (Turin, Teatro Alfieri, during the summer). "*Non toccate la Regina*," by Oronzio Scarno (Milan, Teatro Manzoni, Aug. 30). "*A Moira de Silves*," in three acts, by João Guerreiro de Costa (Lisbon, Teatro de la Trinidad).

In England: "*Guinevere, or Love laughs at Law*," by Dr. Pingner, libretto by Stanley Stevens (London, Kilburn Town Hall, in March). "*Joan*," by Ernest Ford (London, Opéra-Comique Theatre, in June). "*Captain Thérèse*," by Robert Hlanquette, libretto by Bisson (London, Prince of Wales Theatre, Aug. 25). The work is feeble alike as to libretto and music; the latter is trivial and insipid, lacking even the qualities calculated to please uneducated listeners, while the former is a farrago of nonsense, quite unworthy of serious musical illustration.

"*The Black Rover*," romantic opera, by Lacombe Searelle, who also wrote the libretto (London, Globe Theatre, Sept. 23), lacks consistency, as some portions of the work approach the style of grand opera, while others are in the most extravagant manner of *opéra bouffe*. Several of the melodies are pleasing enough, but the *ensembles* and the orchestration are amateurish in the extreme.

In the United States: "*Robin Hood*," by Reginald de Koven, libretto by H. B. Smith (Chicago, during the summer). "*The Khedive*," by Louis and Miah Blake, libretto by Harry Edward and Miah Blake (New Orleans, November or December).

Operettas.—German: "*Der arme Jonathan*," in three acts, by Karl Millöcker, libretto by Hugo Wittmann and L. Bauer (Vienna, Theater an der Wien, Jan. 4, and successively on many stages

in every part of Germany and Austria, also in New York, at the Amberg Theatre, in October, then in English at the Casino, where it still attracts large audiences. "König Lustik," in three acts, by H. A. Platzbecker, libretto by C. Crome-Schwiening (Leipzig, Altes Stadttheater, Jan. 9). "Der alte Dessauer," in three acts, by Otto Findeisen, libretto by Max Henschel (Magdeburg, William Theater, Jan. 16).

"Pepita," in three acts, by Béla Hegyi, libretto after a comedy by Gautier (Pesth, National Theatre, Jan. 21).

"Die Kätzchen," by Hugo Felix (Lemberg, Polish National Theatre, Jan. 23). "Angelor," burlesque operetta in one act, by Karl Weinberger, libretto by Julius Horst (Troppan, Stadttheater, Feb. 15). "Oberst Lumpus," in three acts, by Baron Max von Wildfeld, text by Ottokar Stoklaska (Olmütz, Stadttheater, in February). "Der Gaunerkönig," by Franz Beier, libretto by O. Ewald and W. Bennecke (Cassel, Hoftheater March 6).

"Ein Märchen," vaudeville, by Lehnbacher (pseudonym), music by Theodor Ritté (Ratisbon, Stadttheater, in March). "Die Royalisten," in three acts, by Josef Manas, libretto by Adolf Philipp (Hamburg, Carl-Schulze Theater, April 26). "Marinella," by O. Schulz, libretto by H. Bohrmann (Nuremberg, Stadttheater, May 12).

"Der bleiche Gast," in three acts, by Alfred Zamara and Josef Hellmesberger, Jr., libretto by Victor Leon and H. von Waldberg (Hamburg, Carl-Schulze Theater, Sept. 6). "Der bleiche Zauberer," burlesque by C. M. Ziehrer, text by Isidor Fuchs (Vienna, Theater an der Wien, Sept. 20). "Der Gouverneur," by Eugen von Taund, libretto by Karpa and Legwarth (Graz, Stadttheater, Oct. 18).

"Der Freierwerber," in three acts, by Max Gabriel (Hanover, Residenz Theater, Nov. 16). "Casanova," in three acts, by Benno Pulvermacher, text by Born and Hattendorf (Liegnitz, Silesia, Nov. 21).

"Des Teufels Weib," fantastic *Singspiel* in three acts, by Adolf Müller, text freely after Meilhac and Mortier, by Theodor Herzl (Vienna, Theater an der Wien, Nov. 22).

"Die Soldatenbrant," by Schaumann (Wiener-Neustadt, Nether Austria).

There were two Hungarian operettas: "Gödöllő," by Alois H. Mayer, libretto by M. Gross (Preszburg, Stadttheater, Jan. 18). "Szinán basa," by Rudolf Raimann (Tóts, Hungary, private theatre of Count Eszterházy).

French: "Friguette et Blaisot," in one act, by Albert Millet, libretto by Narrey and Michel Carré the younger (Paris, Bouffes-Parisiens, Jan. 13). "Cendrillonette," in three acts, by Gaston Serpette and Victor Roger, libretto by Paul Ferrier (ibid., Jan. 24). "Ma mie Rosette," in three acts, by Paul Lacôme, libretto by Prével and Liorat (Paris, Folies-Dramatiques, Feb. 4).

"L'Entr'acte," in one act, by André Martinet, libretto by Maxime Boucheron (Paris, Menus Plaisirs, beginning of February). "Un pas de Clerc," in one act, by Camys, libretto by Riondel (Paris, Bouffes-Parisiens, March 10).

"Le Fêliche," by Victor Roger, libretto by Paul Ferrier and Charles Clairville (Paris, Menus Plaisirs, March 13).

"L'Œuf rouge," by Edmond Audran, libretto

by Albert Vanloo and William Busnach (Paris, Folies-Dramatiques, March 14).

"Un Modèle," by Léon Schlesinger, libretto by Mannel Lerouge and André Thomas (Namur, Théâtre Royal, in March).

"La Vocation de Marius," vaudeville-operette by Raoul Pugno, libretto by Fabrice Carré and Debelly (Paris, Théâtre des Nouveautés in March). "L'Égyptienne," in three acts, by Charles Lecocq, libretto by Beaumont, Nuitter, and Chivot (Paris, Folies-Dramatiques, Nov. 8). "Miss Helyett," in three acts, by Edmond Audran, libretto by Maxime Boucheron (Paris, Bouffes-Parisiens, Nov. 12). "Samsonnet," in three acts, by Victor Roger, libretto by Paul Ferrier (Paris, Nouveautés, Nov. 25).

"La Fée aux chèvres," spectacular operetta, by Louis Varnay, libretto by Paul Ferrier and Albert Vanloo (Paris, Théâtre de la Gaîté, Dec. 18), excited great merriment, and will probably hold the stage for some time, especially as it is beautifully mounted and well represented. "Les douze femmes de Japhet," carnival farce, by Victor Roger, libretto by Antony Mars and Maurice Desvallières (Paris, Théâtre de la Renaissance, in December), quite crackbrained, but highly amusing.

Italian: "Occhi di lince," by Crescenzo Buongiorno (Naples, Teatro Fenice, in January). "La Zingara," by the same, (ibid., in April). "Il Sor Venanzo," by Domenico Queretti (Osimo, in January). "L'Isola incantata," by Rossi (Naples, Teatro Fenice, in February). "Guerra in tempo di pace," by Ursi, libretto after Moser's comedy "Krieg im Frieden" (Catania, Teatro Principe di Napoli, in April). "Cin-ko-ka," by Sommer (Turin, Teatro Alfieri). "I Diavoli della Corte," by Carlini (ibid.). "Il Triang d'Amore," by Vincenzo d'Alve (Macerata). "L'Ambasciatore," by Luigi Mantegna (Turin, Teatro Balbo, in October). "Pocennona e Cordalenta," by Pippo Tamburi (Rome, Teatro Rossini). "Treno Tropea," by Pascucci, in Roman dialect (ibid.). "Una Gita di piacere ovvero il Treno lumaca," by Mascetti (Rome, Teatro Metastasio).

"La figlia mal guardata," by Bertaggio (Naples, Teatro Fenice). "Un Carnevale romano ai tempi del marchese del Grillo," by Zuccani, libretto by Bernardi (Rome, Teatro Rossini, in December).

In England there were: "Love's Magic," in one act, by Ladislav Zaverlat, libretto by J. H. J. Jocelyn (Woolwich, Feb. 18), under the auspices of the Royal Artillery. There are only three characters in the libretto, and the plot is simple, though not uninteresting. The music is not ambitious, but extremely pleasing. "The Crusader and the Craven," by Perry Reeve, libretto by W. Allinson (London, Globe Theatre, middle of October).

Finally may be mentioned: "O Reino das mulheros," by Freitas Gazul, libretto by Sonza Bastos (Lisbon, Teatro de la Rua dos Carles). "Los Nuestros zarzuela," by Chapi, libretto by Estreñarra (Madrid, Tivoli). "Furiosa," by Theodor Vogt, libretto by Fritz Lafontaine (San Francisco, Tivoli Theatre).

Ballets.—"The Sleeping Beauty," *ballet-féerie* in three acts and a prologue, by Petipa, music by Peter Tschaiakowsky (St. Petersburg Imperial Theatre, Jan. 15).

"Meissner Porzellan," pantomimic ballet in one act and a prologue, by J. Golinelli, music by Josef Hellmesberger, Jr. (Leipsic, Stadttheater, Jan. 26), was received with great applause. The invention of Meissen porcelain through Böttger, the court alchemist of King August the Strong, of Saxony, forms the leading idea of this charming production, which has become sufficiently familiar in New York by its representation at the Metropolitan Opera House, during the present season, under the title of "Dresden China." "Antiope," by Casati, music by Jacobi (Rome, Teatro Argentina, in February). "Pierrot surpris," ballet pantomime, scenarium by Th. Maison-neuve, music by Adolphe David (Nantes, Grand Théâtre, in March). "Massilia," by Poigny, music by Armand Todecoso (Marseilles, Grand Théâtre, in April). "Ma mie la Lune," pantomime in one act, by Paolo de Lerne, music by Jean Salvanev (Nantes, Grand Théâtre, April 19). "Le Rêve," in two acts, scenarium by Edouard Blau, music by Léon Gastinel (Paris, Opéra, June 9), was most favorably received, and it will undoubtedly, judging by the opinions of the best critics, prove a greater attraction than "La Tempête," by Ambroise Thomas, last year. There are many decorative and scenic effects in

it, and the music is very pleasing. "Jeanne d'Arc," pantomime, music by Ch. M. Widor (Paris, Hippodrome, June 25).

"Lola, o in alto mare," by Razzetto, music by Galleani (Rome, Teatro Quirino, in October). "Csárdás," national ballet in three tableaux, by Zaray, music by Eugen Stojanovits (Pesth, Royal Opera House, Dec. 14). "Ein Tanzmärchen," in four parts and fourteen tableaux, by Franz Gaul and Josef Haszreiter, music by Josef Bayer (Vienna, Hofopertheater, Dec. 19), illustrates the history of the dance, and in scenic effect and magnificent mounting well-nigh surpasses everything presented before. "Das Märchenbuch," scenarium by Max, music by Perthé (Graz, Stadttheater, Dec. 26). "I Thea zi," fantastic ballet, by Razzetto, music by Galleani (Rome, Teatro Quirino, in December). Besides there were the following spectacular pieces: "Le Voyage de Suzette," by Durn and Chivot (Paris, Théâtre de la Gaîté, Jan. 20). "L'Orient-Express," by Paul Burani (Paris, Théâtre du Châtelet, July 12). "Die Million, oder Vivat Imperator," by A. Moszkowski and Richard Nathanson, music by Raida, the choreographic part by Adrien Gredelue (Berlin, Victoria-Theater, Aug. 26).

N

NATIONAL ACADEMY OF SCIENCES.

Historical.—At the beginning of the civil war in this country the Government found itself in almost daily receipt of important suggestions that demanded careful consideration. Many of these were of a scientific nature. Thus, a new explosive would be offered to the War Department, or a new form of iron ship would be sent to the Navy Department, and similar matters that required investigation. At that time Alexander D. Bache was Superintendent of the United States Coast Survey; Joseph Henry, Secretary of the Smithsonian Institution; James M. Gilliss in charge of the United States Naval Observatory; and with other scientists then in Washington, they were frequently consulted by the chiefs of the various departments. It soon became apparent that great advantage could be derived by the active co-operation of men of science throughout the country, many of whom, being specialists, could at once furnish the desired information, and the formation of a National Academy of Sciences, to be similar in character to the Royal Society of London and the Academy of Sciences of Paris was urged upon the Government.

Formation.—An act of Congress was passed on March 3, 1863, incorporating the National Academy, and the first meeting was held in New York city, beginning on April 22, 1863. An organization was effected by the adoption of a constitution and the election of the following officers: Alexander D. Bache, President; Joseph Henry, Vice-President; Louis Agassiz, Foreign Secretary; Wolcott Gibbs, Home Secretary; and Fairman Rogers, Treasurer.

Functions.—The duties of this new body were to include, whenever called upon by any department of the Government, the investiga-

tion, examination, experimenting, and report upon any subject of science or art, the actual expenses of such work and report to be paid from appropriations that may be made for the purpose; but the Academy was to receive no compensation whatever for any services rendered to the United States Government.

Membership.—Its membership was to consist of, not more than fifty ordinary members, who must be citizens of the United States. This limitation was removed in 1870, but the Academy is still conventionally restricted to one hundred members. There are also fifty foreign associates. The entire list is as follows:

Abbe, Cleveland, elected in 1879, meteorologist at the United States Signal-Service Office, Washington, D. C.

Abbot, Henry Larcom, elected in 1872, engineer, member of the United States Corps of Engineers, with the rank of colonel and brevet rank of major-general of volunteers.

Agassiz, Alexander, elected in 1866, naturalist, Curator of the Museum of Comparative Zoölogy, Cambridge, Mass., and regarded as the best authority in the world on certain forms of marine life.

***Agassiz, Louis**, original member, naturalist, founder and Curator of the Museum of Comparative Zoölogy of Harvard College.

***Alexander, John Henry**, original member, physicist, Professor of Physics at the University of Pennsylvania, and member of various Government commissions on weights and measures for the United States Coast Survey.

***Alexander, Stephen**, original member, astronomer, Professor of Astronomy and Mechanics at Princeton College.

Allen, Joel Asaph, elected in 1876, naturalist, curator of animals and birds at the American Museum of Natural History, New York city.

***Bache, Alexander Dallas**, original member, physicist, Superintendent of the United States Coast Survey.

* Dead.

***Baird, Spencer Fullerton**, elected in 1864, naturalist, Secretary of the Smithsonian Institution.

***Barker, George Frederic**, elected in 1876, physicist, Professor of Physics at the University of Pennsylvania, Philadelphia, Pa.

***Barnard, Frederick Augustus Porter**, original member, physicist, President of Columbia College, New York City.

***Barnard, John Gross**, original member, engineer, colonel in the United States Corps of Engineers, with brevet rank of major-general, United States army, and chief engineer on the staff of Gen. Ulysses S. Grant during the Richmond campaign.

***Bartlett, William Holmes Chambers**, original member, mathematician, Professor of Natural and Experimental Philosophy at the United States Military Academy at West Point, N. Y., until retired in 1871.



ALEXANDER DALLAS BACHE,
President of N. A. S., 1863-1868.

***Bell, Alexander Graham**, elected in 1888, physicist and inventor of the telephone, Washington, D. C.

***Billings, John Shaw**, elected in 1883, physician, compiler of the Index Catalogue of the Surgeon-General's Office, Washington, D. C., and Lecturer on Hygiene and Sanitary Science at the School of Mines of Columbia College, New York city.

***Boss, Lewis**, elected in 1889, astronomer, Director of the Dudley Observatory, Albany, N. Y.

***Bowditch, Henry Pickering**, elected in 1887, physician, Professor of Physiology and Dean at Harvard Medical College, Cambridge, Mass.

***Boyden, Uriah Atherton**, originally named as member, but never became connected with the Academy, inventor, improved very greatly the construction of the turbine water wheel.

***Brewer, William Henry**, elected in 1880, chemist, Norton Professor of Agriculture at the Sheffield Scientific School of Yale University, New Haven, Conn.

***Brooks, William Keith**, elected in 1884, naturalist, Professor of Morphology at the Johns Hopkins University, in Baltimore, Md.

***Brown-Séquard, Charles Edouard**, elected in 1868, physiologist, Professor of Experimental Medicine in the College de France, Paris, France.

***Brush, George Jarvis**, elected in 1868, mineralogist, Director of the Sheffield Scientific School of Yale University, New Haven, Conn.

***Casey, Thomas Lincoln**, elected in 1890, engineer, in command of the United States Corps of Engineers with the rank of brigadier-general, and architect of the Washington monument.

***Caswell, Alexis**, original member, physicist, Professor of Mathematics and Natural Philosophy and President of Brown University.

***Chandler, Charles Frederic**, elected in 1874, chemist, Professor of Chemistry and dean of the faculty of the School of Mines of Columbia College, New York city.

***Chandler, Seth Carlo**, elected in 1888, astronomer, formerly assistant at the Harvard Observatory, now independent investigator, Cambridge, Mass.

***Chauvenet, William**, original member, mathematician, Professor of Mathematics and Chancellor of Washington University, St. Louis, Mo., and author of Chauvenet's mathematical text-books.

***Chittenden, Russell Henry**, elected in 1890, chemist, Professor of Physiological Chemistry at Yale University, New Haven, Conn.

***Clark, Henry James**, elected in 1872, naturalist, Professor of Veterinary Science in the Massachusetts Agricultural College, Amherst, Mass.

***Coffin, James Henry**, original member, meteorologist, Professor of Mathematics and Astronomy at Lafayette College, Easton, Pa., and author of various mathematical text-books.

***Coffin, John Huntington Crane**, original member, mathematician, Professor of Mathematics in United States navy, on duty at the United States Naval Observatory in Washington, and subsequently in charge of the "American Ephemeris and Nautical Almanac." Retired in 1877, and from 1848 till his death senior professor in United States navy.

***Comstock, Cyrus Ballou**, elected in 1884, engineer, colonel in the United States Corps of Engineers, with brevet rank of major-general of volunteers, and senior aide-de-camp to Gen. Ulysses S. Grant during the Richmond campaign.

***Cook, George Hammell**, elected in 1888, geologist, Professor of Geology and Agriculture at Rutgers College, New Brunswick, N. J., and State Geologist of New Jersey.

***Cooke, Josiah Parsons**, elected in 1872, chemist, Professor of Chemistry and Director of the Chemical Laboratory of Harvard University, and author of "The New Chemistry."

***Cope, Edward Drinker**, elected in 1872, paleontologist, long connected with the various geological surveys of the United States, and author of many books treating of evolution.

***Cones, Elliott**, elected in 1877, naturalist, Professor of Biology in the Virginia Agricultural and Mechanical College, and writer on theosophy.

***Crafts, James Mason**, elected in 1872, chemist, formerly Professor of Chemistry at the Massachusetts Institute of Technology, and now independent investigator, Boston, Mass.

***Dahlgren, John Adolph**, originally named as a member, but never became connected with the Academy, naval officer, rear-admiral in United States navy, and in command of the South Atlantic blockading squadron during 1863.

***Dalton, John Call**, elected in 1864, physiologist, President of the College of Physicians and Surgeons of Columbia, New York city, author of "Physiology."

***Dana, Edward Salisbury**, elected in 1884, mineralogist, curator of minerals at Peabody Museum of Yale University, New Haven, Conn.

***Dana, James Dwight**, original member, geologist, Professor of Geology and Mineralogy at Yale University, senior editor of "American Journal of Science," and author of text-books on geology and mineralogy.

***Davidson, George**, elected in 1884, physicist, assistant on the United States Coast Survey, and in charge of Davidson Observatory, San Francisco, Cal.

***Davis, Charles Henry**, original member, rear-admiral in United States navy, and long superintendent of United States Naval Observatory, Washington, D. C.

***Draper, Henry**, elected in 1877, astronomer, leading American authority on celestial photography.

***Draper, John Christopher**, elected in 1877, physicist, Professor of Natural Philosophy in the University of the City of New York, and of Chemistry in its medical department, made the first photographic portrait from life, and author of "History of the American Civil War" and "History of the Conflict between Religion and Science."

***Dutton, Clarence Edward**, elected in 1884, geologist, major in the United States army, and formerly in charge of the division of volcanic geology on the United States Geological Survey.

***Eads, James Buchanan**, elected in 1872, civil engineer, designer of the St. Louis Bridge and of the

Mississippi jetty system, and projector of the Nicaragua Ship Railway.

***Engelmann, George**, original member, botanist, leading authority on North American vines and other species, President of the St. Louis Academy of Sciences.

***Farlow, William Gilson**, elected in 1877, botanist, Professor of Cryptogamic Botany at Harvard University, Cambridge, Mass.

***Ferrel, William**, elected in 1868, meteorologist, long connected with the United States Signal Service Office, now retired, Martinsburgh, W. Va.

***Fraser, John Fries**, original member, physicist, Professor of Physics at the University of Pennsylvania, Philadelphia, Pa.

***Gabb, William More**, elected in 1876, paleontologist, in charge of the cretaceous and tertiary fossils of the Geological Survey of California, and considered the greatest authority on invertebrate paleontology of those ages in his time.

***Genth, Frederick Augustus**, elected in 1872, chemist, Professor of Chemistry and Mineralogy at the University of Pennsylvania.

***Gibbs, Josiah Willard**, elected in 1879, physicist, Professor of Mathematical Physics at Yale University, and author of various memoirs in thermodynamics.

***Gibbs, Oliver Wolcott**, original member, chemist, long Rumford Professor at Harvard University and in charge of the laboratory of Lawrence Scientific School, Cambridge, Mass., now independent investigator at Newport, R. I.

***Gilbert, Grove Karl**, elected in 1883, geologist, in charge of the Appalachian division of the United States Geological Survey, Washington, D. C.

***Gill, Theodore Nicholas**, elected in 1878, naturalist, ichthyologist at the Smithsonian Institution, Washington, D. C.

***Gillies, James Melville**, original member, lieutenant in the United States navy and originator and in charge of the United States Naval Observatory, Washington, D. C.

***Goodale, George Lincoln**, elected in 1890, botanist, Professor of Natural History and Director of the Botanic Garden of Harvard University, Cambridge, Mass.

***Goode, George Brown**, elected in 1888, ichthyologist, assistant secretary of the Smithsonian Institution, with charge of the United States National Museum.

***Gould, Augustus Addison**, original member, naturalist, leading authority on conchology, and practicing physician.

***Gould, Benjamin Apthorp**, original member, astronomer, from 1868 till 1885 organizer and Director of the National Observatory of the Argentine Republic, Cordoba, now editor "Astronomical Journal," Cambridge, Mass.

***Gray, Asa**, original member, botanist, Professor of Natural History at Harvard University and one of the most distinguished botanists in the world, author of numerous text-books.

***Guyot, Arnold**, original member, geographer, Professor of Physical Geography and Geology at Princeton, and author of numerous text-books.

***Hadley, James**, elected in 1872, philologist, Professor of Greek at Yale University and President of the American Oriental Society.

***Hague, Arnold**, elected in 1885, geologist, in charge of the Yellowstone Park division of the United States Geological Survey.

***Haldeman, Samuel Stehman**, elected in 1876, philologist, Professor of Comparative Philology at the University of Pennsylvania, also naturalist on the Pennsylvania Geological Survey.

***Hall, Asaph**, elected in 1875, astronomer, Professor of Mathematics in the United States navy and on duty at the United States Naval Observatory, Washington, D. C., discoverer of the moons of Mars.

***Hall, James**, original member, paleontologist, Geologist of the New York Geological Survey and Director of the New York State Museum.

***Hastings, Charles Sheldon**, elected in 1889, physicist, Professor of Physics in the Sheffield Scientific School of Yale University, New Haven, Conn.

***Hayden, Ferdinand Vandever**, elected in 1873, geologist, Professor of Mineralogy and Geology at the University of Pennsylvania and director of the Geological and Geographical Survey of the Territories, usually called by his name.

***Henry, Joseph**, original member, physicist, first Secretary of the Smithsonian Institution.



JOSEPH HENRY,
President of N. A. S., 1868-1878.

***Hilgard, Eugene Woldemar**, elected in 1872, chemist, Professor of Agricultural Chemistry and Botany at the University of California, Berkeley, Cal.

***Hilgard, Julius Erasmus**, original member, physicist, late Superintendent of the United States Coast Survey.

***Hill, George William**, elected in 1874, theoretical astronomer, assistant in the office of the "American Ephemeris and Nautical Almanac."

***Hill, Henry Barker**, elected in 1883, chemist, Professor of Chemistry at Harvard University, Cambridge, Mass.

***Hitchcock, Edward**, original member, geologist, President of Amherst College and State Geologist at various times of Massachusetts, Vermont, and New York.

***Holbrook, John Edwards**, elected in 1865, naturalist, Professor of Anatomy at the Medical College of South Carolina, and an accepted authority on reptiles.

***Holden, Edward Singleton**, elected in 1885, astronomer, President of the University of California and Director of the Lick Observatory.

***Hubbard, Joseph Stillman**, original member, astronomer, Professor of Mathematics in the United States navy, and on duty at United States Naval Observatory.

***Humphreys, Andrew Atkinson**, original member, engineer, in command of the United States Corps of Engineers with rank of brigadier-general, and holding brevet rank of major-general in the United States army, chief of staff to Gen. George G. Meade, and commander of Second Corps of the Army of the Potomac.

***Hyatt, Alpheus**, elected in 1875, naturalist, Professor of Zoology and Paleontology at the Massachusetts Institute of Technology, Boston, Mass., and an accepted authority on sponges.

***Jackson, Charles Loring**, elected in 1883, chemist, Professor of Chemistry at Harvard University, Cambridge, Mass.

***Johnson, Samuel William**, elected in 1866, chemist, Professor of Theoretical and Agricultural Chemistry in the Sheffield Scientific School of Yale University, and author of "How Crops grow" and "How Crops feed."

***King, Clarence**, elected in 1876, geologist, director of the geological survey of the fortieth parallel, and then of the United States Geological Survey, now engaged in special geological investigations.

***Kirtland, Jared Potter**, elected in 1865, physician, Professor of the Theory and Practice of Medicine in the Cleveland Medical College, and an able investigator in various branches of natural science.

***Lane, Jonathan Homer**, elected in 1872, mathematician, assistant on the United States Coast Survey, with charge of Bureau of Weights and Measures.

***Langley, Samuel Pierpont**, elected in 1876, astronomer, in charge of the Observatory in Allegheny City, and Secretary of the Smithsonian Institution.

***Le Conte, John**, elected in 1878, physicist, Professor of Physics, and in 1870-'81 President of the University of California.

***Le Conte, John Lawrence**, original member, naturalist, regarded as the greatest entomologist that this country has ever produced: his specialty was coleoptera.

***Le Conte, Joseph**, elected in 1875, geologist, Professor of Geology and Natural History in the University of California and author of several works on evolution.

***Ledy, Joseph**, elected in 1884, naturalist, Director of the Department of Biology at the University of Pennsylvania, also Professor of Anatomy there.

***Lesley, J. Peter**, original member, geologist, Director of the State Survey of Pennsylvania, and regarded as the chief authority in the United States on the coal measures of North America.

***Lesquereux, Leo**, elected in 1864, botanist, highest American authority on mosses and fossil botany, Columbus, Ohio.

***Longstreth, Meirs Fisher**, original member, astronomer, in charge of the Friends' Observatory in Philadelphia, and now practicing physician in Sharon Hill, Pa.

***Loomis, Elias**, elected in 1878, mathematician, Professor of Natural Philosophy and Astronomy at Yale University, New Haven, Conn., and author of text-books.

***Lovering, Joseph**, elected in 1873, physicist, Professor of Mathematics and Natural Philosophy and Director of the Jefferson Physical Laboratory of Harvard University, Cambridge, Mass., now emeritus.

***Lyman, Theodore**, elected in 1872, naturalist, Commissioner of Inland Fisheries of Massachusetts, and assistant at the Museum of Comparative Zoölogy of Harvard University.

***Mahan, Denis Hart**, original member, engineer, Professor of Engineering at the United States Military Academy at West Point, N. Y., author of many text-books.

***Marsh, George Perkins**, elected in 1866, philologist, authority on Scandinavian languages and long United States minister to Italy.

***Marsh, Othniel Charles**, elected in 1874, paleontologist, Professor of Paleontology at Yale University and discoverer of more than 1,000 new species of extinct vertebrates.

***Mayer, Alfred Marshall**, elected in 1872, physicist, Professor of Physics at the Stevens Institute of Technology, Hoboken, N. J.

***Meek, Fielding Bradford**, elected in 1870, paleontologist, authority on the invertebrate paleontology of Illinois, Ohio, California, and the Rocky Mountain region.

***Meigs, Montgomery Cunningham**, elected in 1865, quartermaster-general, with the rank of brigadier-general in the United States army, architect of various Government buildings in Washington, D. C.

***Mendenhall, Thomas Corwin**, elected in 1887, physicist, Superintendent of United States Coast Survey.

***Michaels, Arthur**, elected in 1889, chemist, formerly Professor of Organic Chemistry at Clark University, Worcester, Mass., now investigating independently in England.

***Michelson, Albert Abraham**, elected in 1888, physicist, Professor of Physics at Clark University, Worcester, Mass., and the author of a brilliant research on the velocity of light.

***Mitchell, Henry**, elected in 1885, hydrographer, assistant on the United States Coast Survey, and has served on Government commissions to examine the principal harbors on the Atlantic coast.

***Mitchell, Silas Weir**, elected in 1865, physician, accepted as an authority on questions of physiology, toxicology, and nervous diseases, and author of scientific works, novels, children's books, and poems.

***Morgan, Lewis Henry**, elected in 1875, anthropologist. His studies concerning Indian life and customs gained for him the title of "Father of American Anthropology."

***Morse, Edward Sylvester**, elected in 1876, naturalist, formerly Professor of Zoölogy at the University of Tokio, Japan, and now Director of the Peabody Academy of Natural Sciences, Salem, Mass.

***Morton, Henry**, elected in 1874, physicist, President of Stevens Institute of Technology, Hoboken, N. J.

***Newberry, John Strong**, original member, geologist, Professor of Geology and Paleontology at the Columbia College School of Mines and formerly State Geologist of Ohio, but now connected with the national survey as expert on special subjects.

***Newcomb, Simon**, elected in 1869, astronomer, senior active Professor of Mathematics in the United States navy, and in charge of the office of the "American Ephemeris and Nautical Almanac."

***Newton, Hubert Anson**, original member, mathematician, Professor of Mathematics at Yale University and accepted authority on meteorites.

***Newton, John**, elected in 1876, engineer, late chief of the United States Corps of Engineers, with the rank of brigadier-general and holding the brevet rank of major-general in the United States army, commanded First Corps of the Army of the Potomac at Gettysburg, and was Commissioner of Public Works in New York city.

***Norton, William Augustus**, elected in 1873, engineer, graduated at the United States Military Academy, and from 1852 till his death Professor of Civil Engineering at the Sheffield Scientific School of Yale University.

***Oliver, James Edward**, elected in 1872, mathematician, head professor in charge of the Department of Mathematics at Cornell University, Ithaca, N. Y., and author of text-books.

***Packard, Alpheus Spring**, elected in 1872, entomologist, Professor of Zoölogy and Geology at Brown University, Providence, R. I., and one of the founders of the Peabody Academy of Natural Sciences.

***Peirce, Charles Sanders**, elected in 1877, physicist, assistant on the United States Coast Survey, and has held lectureships on logic at Harvard and Johns Hopkins Universities.

***Peters, Christian Henry Frederick**, elected in 1876, astronomer, Professor of Astronomy at Hamilton College and Director of the Litchfield Observatory, Clinton, N. Y. He discovered forty-three asteroids.

***Pickering, Edward Charles**, elected in 1873, astronomer, Professor of Astronomy and Geodesy and Director of the Observatory of Harvard University, Cambridge, Mass.

***Pourtales, Louis François de**, elected in 1874, naturalist, assistant in charge of the tidal division of the United States Coast Survey and assistant in zoölogy at the Museum of Comparative Zoölogy, Cambridge, Mass.

***Powell, John Wesley**, elected in 1880, geologist, Director of the Geographical and Geological Survey of the Rocky Mountain region, and since 1881 Director of the United States Geological Survey.

***Pumpelly, Raphael**, elected in 1872, geologist, formerly State Geologist of Missouri, of the Transcontinental Survey of the Northern Pacific Railway, and now of the United States Geological Survey.

***Putnam, Frederick Ward**, elected in 1885, naturalist, Curator of the Peabody Museum of American Archaeology and Ethnology, Cambridge, Mass., and Permanent Secretary of the American Association for the Advancement of Science since 1873.

***Ramsen, Ira**, elected in 1882, chemist, Professor of Chemistry at the Johns Hopkins University and editor of the "American Chemical Journal."

***Rodgers, John**, original member, naval officer, commanded the North Pacific and China Seas Expedition in 1852-'55, served through the civil war, was commissioned rear-admiral, and had charge of the United States Naval Observatory, Washington, D. C.

Rogers, Fairman, original member, formerly lecturer in mechanics at the Franklin Institute and Professor of Civil Engineering at the University of Pennsylvania.

***Rogers, Robert Empie**, original member, chemist, Professor of Chemistry at the University of Pennsylvania, and of Chemistry and Toxicology at the Jefferson Medical College, Philadelphia, Pa.

Rogers, William Augustus, elected in 1885, astronomer, Professor of Astronomy at Colby University, Waterville, Me., and an acknowledged authority on micrometrical work.

***Rogers, William Barton**, original member, physicist, founder and President of the Massachusetts Institute of Technology, Boston, Mass.



WILLIAM B. ROGERS,
President of N. A. S., 1878-1882.

Rood, Ogden Nicholas, elected in 1865, physicist, Professor of Physics at Columbia College and author of "Modern Chromatics."

Rowland, Henry Augustus, elected in 1881, physicist, Professor of Physics and director of the laboratory of the Johns Hopkins University and inventor of the large diffraction gratings known by his name.

Rutherford, Lewis Morris, original member, astronomer. His researches have been in celestial photography chiefly, and his pictures of the moon are the best ever made; also he devised a ruling engine for gratings.

***Saxton, Joseph**, original member, mechanician, inventor of numerous scientific instruments, and constructed the standard weighing apparatus at the United States Mint in Philadelphia, of which he was given charge.

Schott, Charles Anthony, elected in 1872, civil engineer, assistant on the United States Coast Survey and author of various observations published by the Smithsonian Institution.

Sudder, Samuel Hubbard, elected in 1877, naturalist, long assistant librarian of Harvard University, and since 1888 paleontologist to the Geological Survey. On butterflies and fossil insects he stands first in the country.

Sellers, William, elected in 1873, mechanical engineer, inventor of improved forms of tools and machines, for which he has received upward of seventy patents. It is due to his influence that a uniform system of screws, threads, and nuts was adopted throughout the United States.

***Silliman, Benjamin**, original member, Professor of Chemistry and Natural History at Yale University, and called by Edward Everett the "Nestor of American Science."

***Silliman, Benjamin, Jr.**, original member, founder of the Sheffield Scientific School in 1846 and professor in various departments of Yale University until his death, author of "First Principles of Chemistry" and of "Principles of Physics."

***Smith, John Lawrence**, elected in 1872, chemist, Professor of Chemistry at the University of Virginia and

an authority on mineralogy and meteorites, of which his collection was one of the best in the world and the finest in this country.

Smith, Richmond Mayo, elected in 1890, political economist, Professor of Political Economy and Social Science at Columbia College, New York.

Smith, Sidney Irving, elected in 1884, biologist, Professor of Comparative Anatomy in the Sheffield Scientific School, and also connected with United States Fish Commission.

***Stimpson, William**, elected in 1868, naturalist, Secretary of the Chicago Academy of Sciences and investigator of sea fauna under the auspices of the United States Coast Survey, whose deep-sea dredging expeditions he had command of.

***Strong, Theodore**, original member, mathematician, Professor of Mathematics and Natural Philosophy at Rutgers College, New Brunswick, N. J., and author of various text-books on the higher mathematics.

***Sullivan, William Stirling**, elected in 1872, botanist, recognized as the most accomplished biologist that this country has ever produced.

***Torrey, John**, original member, botanist, Professor of Chemistry and Botany at Columbia College and assayer in charge of the United States Assay Office in New York city.

***Totten, Josiah Gilbert**, original member, civil engineer, chief of corps of engineers with rank of brigadier-general and brevet rank of major-general, United States army, and long a member of the United States Lighthouse Board.

Trowbridge, John, elected in 1878, physicist, Rumford Professor of the Application of Science to the Useful Arts and Director of the Jefferson Physical Laboratory at Harvard University, Cambridge, Mass.

Trowbridge, William Petit, elected in 1872, engineer, Professor of Engineering and in charge of that department at the Columbia College School of Mines in New York city.

Trumbull, James Hammond, elected in 1872, philologist, formerly librarian of the Wadsworth Athenaeum at Hartford, and is believed to be the only American living able to read John Eliot's Indian Bible.

***Tuckerman, Edward**, elected in 1868, botanist, Professor of Botany at Amherst College, and the highest American authority on lichens at the time of his death.

Verrill, Addison Emory, elected in 1872, naturalist, Professor of Geology in the Sheffield Scientific School and curator of geology at the Peabody Museum of Yale University, also he has been engaged in deep-sea dredging under the auspices of the United States Fish Commission.

Walker, Francis Amasa, elected in 1878, statistician and economist, superintendent of the ninth and tenth census and President of the Massachusetts Institute of Technology, also author of books on political economy.

***Warren, Gouverneur Kemble**, elected in 1876, engineer, major in the United States Corps of Engineers, and holding brevet rank of major-general United States army, chief of engineers of the Army of the Potomac, and permanent commander of the Fifth Corps of the army.

***Watson, James Craig**, elected in 1867, astronomer, Professor of Astronomy at the University of Michigan, Ann Arbor, and discoverer of twenty-two planetary bodies.

Watson, Sereno, elected in 1889, botanist, curator of the herbarium at Harvard University, Cambridge, Mass.

White, Charles Abiathar, elected in 1889, paleontologist, in charge of the department of mesozoic invertebrates in the United States Geological Survey, Washington, D. C.

Whitney, Josiah Dwight, original member, but has since resigned, geologist, formerly State Geologist of California, and now Professor of Geology at Harvard University.

Whitney, William Dwight, elected in 1865, and has since resigned, philologist, Professor of Sanskrit and Comparative Philology at Yale University and editor

of the Century Dictionary, also author of many text-books.

***Winlock, Joseph**, original member, astronomer, Professor of Astronomy and Director of the Observatory of Harvard University and consulting astronomer to the United States Coast Survey.

Wood, Horatio C., elected in 1879, physician, Clinical Professor of Diseases of the Nervous System at the medical department of the University of Pennsylvania, and one of the editors of the "United States Dispensary."

***Woodward, Joseph Janvier**, elected in 1873, surgeon, on duty at the Surgeon-General's office in Washington, and charged with collecting materials for a medical history of the civil war and for a military medical museum, also attending surgeon on President Garfield.

***Worthen, Amos Henry**, elected in 1872, geologist, State Geologist of Illinois, and in charge of the State Museum.

Wright, Arthur Williams, elected in 1881, physicist, Professor of Experimental Physics at Yale University, and in charge of the Sloane Physical Laboratory there.

***Wyman, Jeffries**, original member, comparative anatomist, Curator of Peabody Museum of American Ethnology and Archaeology of Harvard University, Cambridge, and first President of the Boston Society of Natural History.

Young, Charles Augustus, astronomer, Professor of Astronomy at Princeton College, and author of "The Sun" and several astronomical text-books.

Thus the total membership has included 168 persons, of which 2 never accepted their election, 2 have resigned, 66 are deceased, 3 are on the honorary list, and 99 are active members; also there have been 47 foreign associates, of whom 22 have died.

Meetings.—Among the important provisions of the constitution was that the academy should hold one stated session in each year in the city of Washington, on the third Tuesday in April, and that another be held at such place and time as the council may direct. The latter, known as the scientific session, was at first called in August, but is now usually held in November. It has been convened in New Haven, Conn., Northampton, Mass., Hartford, Conn., Cambridge, Mass., New York, N. Y., Philadelphia, Pa., Newport, R. I., and Albany, N. Y.

Committees.—The constitution further gives power to the presiding officer to appoint all committees, which are of three kinds: Those of the Academy, such as "On Ways and Means to provide a Fund for the Academy"; "On Weights, Measures, and Coinage"; "On the Election of Foreign Associates"; and "On Reserving Public Lands on and near Mount Whitney, Cal., for Scientific Purposes"; which are standing, or remain in force until the purpose for which they were appointed has been accomplished. Those designated as Government committees that are chosen to report on questions referred to the Academy by the Government and include, since 1886: "On the Astronomical Day, Eclipse of 1886, and New Observatory"; "On the Tariff Classification of Wool"; "On Opium"; and "On Sugar Determinations." Finally a series of committees on the various trust funds and medals in possession of the Academy.

Reports.—About fifty official reports on questions that called for special scientific advice have been made to the Government since 1864, and among them are: "On the Protection of the Bottoms of Iron Vessels" (1864); "On the Use

of Aluminum Bronze for Cent Coinage" (1864); "On Testing the Purity of Whisky" (1865); "On the Preservation of Paint on Army Knapsacks" (1866); "On Removal of Ink from Revenue Stamps" (1870); "On Silk Culture in the United States" (1870); "On Water-proofing of the Fractional Currency" (1876); "On Demerara Sugars" (1878); "On the Preservation of the Writing of the Original Declaration of Independence" (1879); "On Sorghum Sugar" (1882); "On the Separation of Methyl from Alcohol" (1883); "On Glucose" (1883); and "On Customs Duty on Philosophical and Scientific Apparatus" (1885).

Funds.—There has been received by bequest to the Academy the property of Alexander D. Bache in trust, the income to be devoted to the prosecution of research in physical and natural science by assisting experimenters and observers, and the publication of the results of their investigations. From this fund there is derived an annual income of \$2,500, a portion of which was devoted to a magnetic survey of the United States under the direction of a committee of the Academy and continued until 1880, and its results published in the report of the United States Coast Survey for 1882. Among other researches that it has furthered were those "On the Velocity of Light," conducted by Simon Newcomb; "On Complex Inorganic Acids," by Wolcott Gibbs; and "Investigations on the Sun," by Samuel P. Langley. In 1878 a sum of \$40,000 was left to the Academy by Joseph Henry, the income of which goes to the daughters of Prof. Henry during their lifetime. There was received from the estate of James C. Watson an amount equivalent to nearly \$14,000, from the interest of which a medal is to be prepared to be awarded to the person in any country who shall make any astronomical discovery or produce any astronomical work worthy of special reward and contributing to the progress of astronomy. There have been appropriations from this fund of various sums, including \$300 in 1883 for the total solar eclipse of May 6 of that year; also it was recommended that \$500 be annually set aside for work on tables of the small planets discovered by Prof. Watson, as expressly desired by him in his bequest to the Academy; and in 1887 the sum of \$100 in gold from this fund was presented to Dr. Benjamin A. Gould, for his valuable labors for nearly forty years in promoting the progress of astronomical science. In 1889 this medal was awarded to Dr. Edward Schoenfeld, of the University of Bonn, and was accepted in his name by Dr. Wolcott Gibbs. The circumstance which led to the award of the medal was the completion of the "Durchmusterung," or a great star catalogue begun forty years ago by Argelander. The magnitude of the task of preparing this catalogue will be appreciated when it is understood that it includes every star in the northern hemisphere, and every star in the southern hemisphere above 30° declination from the tenth magnitude upward—the number of stars in the northern hemisphere being about 300,000, and in the southern hemisphere nearly 150,000. In 1882, on the death of Henry Draper, his widow presented to the Academy \$6,000 for the establishment of a gold medal, to be awarded every two years to the individual, in this or any country, who

makes the most important discovery in astronomical physics, the value of the medal to be \$200. The first award was to Samuel P. Langley, in 1886, and the second, in 1888, to Edward C. Pickering. The sum of \$8,000 was placed at the disposal of the Academy by the widow of J. Lawrence Smith as a memorial fund to promote the study of meteoric bodies. A medal was secured from this sum, and in 1888 the first award was made to Hubert A. Newton.

Papers.—At each of the meetings papers are read descriptive of some investigation or discovery made by the author. A notice of such a communication must first be given to the secretary, and the Academy, while holding itself responsible for the propriety of the paper, disclaims any responsibility for the facts or opinions expressed. There have been 1,036 papers presented to the Academy since 1864, of which a full list of 777 titles appears in the annual report of 1883. Besides the memoirs by the members, there are also papers giving the researches of other scientists who have been specially invited to attend the sessions.

Publications.—These are of three kinds—annual reports, memoirs, and biographical memoirs. The first are transmitted each year to the President of the United States Senate, and are published as octavo pamphlets containing the proceedings of the meetings held, list of papers read, and an appendix giving the special reports of the committees appointed to consider

eign secretary; Asaph Hall, home secretary; and John S. Billings, treasurer.

Proceedings.—The stated session was held, during April, in Washington, under the presidency of Othniel C. Marsh. The following papers were read: "Effects of the Inhalation of Nitrogen, Nitrous Oxide, Oxygen, and Carbonic Acid upon the Circulation, with Special Reference to the Nitrous Oxides, Anæsthesia, and Asphyxia," by Horatio C. Wood; "Application of Interference Methods to Astronomical Measurements," by Albert A. Michelson; "Physiognomy of American Tertiary Hemiptera," by Samuel H. Scudder; "Totality of the Eclipse of 1889, December 22," by David P. Todd; "The Budding of Salpa considered in Relation to the Question of the Inheritance of Acquired Characters," by William K. Brooks; "Recent Advances toward a Knowledge of the Fishes of the Great Oceanic Depths," by George B. Goode and Tarleton H. Bean; "A System of Classification of Variable Stars," by Seth C. Chandler; "On the Spectrum of Metals," by Henry A. Rowland; "On the Cheapest Light," by Samuel P. Langley; "Relation of Secular Disintegration to Certain Crystalline and Transitional Schists" and "Structure of the Green Mountains," by Raphael Pumpelly; "Researches in the Double Halides" and "Researches in the Sulphinides," by Ira Remsen. At this session four new members were elected, as follows: Gen. Thomas L. Casey, Prof. Russell H. Chittenden, Prof. George L. Goodale, and Prof. Richmond M. Smith.

The scientific session was held during November, in Boston, when the following papers were presented: "On the Primary Cleavage Products formed in the Digestion of the Albuminoid Gelatin," by Russell H. Chittenden; "On the Classification and Distribution of Stellar Spectra," by Edward C. Pickering; "On the Relation of Atmospheric Electricity, Magnetic Storms, and Weather Elements to a Case of Traumatic Neuralgia," by R. Catlin; "On the Growth of Children studied by Galton's Method of Percentile Grades," by Henry P. Bowditch; "On Electrical Oscillations in Air, together with Spectroscopic Study of the Motions of Molecules in Electrical Discharges," by John Trowbridge; "Some Considerations regarding Helmholtz's Theory of Dissonance," by Charles R. Cross; "A Critical Study of a Combined Metre and Yard upon a Surface of Gold, the Metre having Subdivisions to Two Millimetres and the Yard to Tenths of Inches," and "On Evaporation as a Disturbing Element in the Determination of Temperatures," by William A. Rogers; "On the Use of the Phonograph in the Study of the Languages of the American Indians," by J. Walter Fewkes; "On the Probable Loss in the Enumeration of the Colored People of the United States at the Census of 1870," by Francis A. Walker; "On the Capture of Periodic Comets by Jupiter," by Hubert A. Newton; "On the Proteids of the Oat Kernel," by Thomas B. Osborne; "On the Present Aspect of the Problems concerning Lexell's Comet," by Seth C. Chandler; "The Great Falls Coal Field, Montana—its Geological Age and Relations," by John S. Newberry; "Notes on the Separation of the Oxides in Cerite, Samarskite, and Gadolinite," by Wolcott Gibbs; "On the Relationships of the Cyclopteroidæ," by Theodore Gill; and "On the



OTHNIEL C. MARSH,
President of N. A. S. since 1882.

subjects referred to the Academy by the Government. The memoirs are a series of quarto volumes, containing valuable contributions to science made by the members and originally presented to the Academy in the form of papers that were read at its sessions. Four volumes have been issued, and the fifth is ready for printing. The biographical memoirs consist of separate monographs of the members as they die, and contain usually a full history of the work and bibliography. Two volumes of these, including fifteen sketches each, have been published.

Officers.—The officers are chosen for a term of six years, and the first president was Alexander D. Bache. He was succeeded on his death in 1868 by Joseph Henry, who then held office until 1878. William B. Rogers followed, and on his death, in 1882, Othniel C. Marsh became president. The other officers at present are Samuel P. Langley, vice-president; Wolcott Gibbs, for-

Origin of Electro-Magnetic Waves," by Amos E. Dolbear. During the year the Academy has lost two of its members by death. These are John H. C. Coffin and Christian H. F. Peters. Sketches of their lives appear elsewhere in this volume.

At this session five new members were elected, including Prof. Lewis Boss, Prof. Charles S. Hastings, Dr. Charles A. White, Prof. Sereno Watson, Prof. Arthur Michaels. This makes the list of membership number exactly 100, the first time in the history of the Academy that this number, which the unwritten law of the Academy fixes as a maximum limit, has been reached.

NATIONAL LEAGUE FOR THE PROTECTION OF AMERICAN INSTITUTIONS.

an organization incorporated by the State of New York, Dec. 24, 1889. The objects of the League are to secure constitutional and legislative safeguards for the protection of the common-school system and other American institutions; to promote public instruction in harmony with such institutions; and to prevent all sectarian or denominational appropriations of public funds. It is claimed by the League that the leading political parties in the United States have already committed themselves, in their platforms, to the objects of the League; and it is proposed to add an amendment to the Constitution of the United States providing that "No State shall pass any law respecting an establishment of religion, or prohibiting the free exercise thereof, or use its property or credit, or any money raised by taxation, or authorize either to be used, for the purpose of founding, maintaining, or aiding, by appropriation, payment for services, expenses, or otherwise, any church, religious denomination, or religious society, or any institution, society, or undertaking which is wholly or in part under sectarian or ecclesiastical control." Several of the States already contain provision against the violation of religious freedom and the sectarian appropriation of the public moneys; but only a national provision, it is claimed, can set the question at rest. Therefore the foregoing proposed amendment to the Constitution is submitted by the League for the approval of statesmen, jurists, lawyers, publicists, clergymen, college presidents, superintendents of public instruction, and others engaged in educational work in all States of the Union. In proposing to resist assaults upon American institutions, upon the supremacy of the American people, and the authority of American law, by whomsoever made and under whatsoever pretense of liberty of conscience, the Constitution of the State of New York supplies this simple rule: "But the liberty of conscience hereby secured shall not be so construed as to excuse acts of licentiousness or justify practices inconsistent with the peace or safety of the State," a rule recognized by the Supreme Court of the United States when it adjudged that "Crime is not excused because sanctioned by any partisan sect which may designate it as religion." The adoption of this amendment, the League believes, will accomplish the end it has in view—to prevent the use of the money or credit of the United States by any State for sectarian or ecclesiastical purposes. It was not deemed advisable to make provision in the amendment in reference to local municipalities within the States, as these are gov-

erned by the organic law or the statutes of the several States creating them; and the amendment as proposed gives a rule which in its proper exercise should prevent the application, in any way and in any State, of public moneys to the particular purposes prohibited. The League calls attention to the fact that in 1875 James G. Blaine introduced a similar amendment to the Constitution, proposed by President Grant, in the House of Representatives, and that it passed that body by a vote of 180 to 7. But the amendment was lost in the Senate by a vote of 28 to 16—not the requisite two thirds. On June 15, 1876, the Republican National Convention at Cincinnati declared: "The public-school system of the United States is the bulwark of the American republic, and, with a view to its security and permanence, we recommend an amendment to the Constitution of the United States, forbidding the application of any public funds or property for the benefit of any schools or institutions under sectarian control." The Democratic national platform adopted at St. Louis, June 28, 1876, declared: "We do here reaffirm . . . our faith in the total separation of Church and state, for the sake alike of civil and religious freedom," and referred to "the public schools . . . which the Democratic party has cherished from their foundation, and is resolved to maintain, without prejudice or reference for any class, sect, or creed, and without largesses from the treasury to any."

The League's plan of action embraces the organization of auxiliary leagues throughout the country, without regard to creed or party, and the appointment of local committees to select the best-equipped persons as school trustees and superintendents, to decide upon the fitness of school-houses and appliances and the personal character and qualifications of teachers. These committees should scrutinize text-books to see that they contain nothing of a sectarian character likely to violate the American principle of a complete separation of Church and state. They also see that no public moneys are appropriated for sectarian purposes, and that the inmates of public institutions are subjected to no foreign or sectarian teaching. They remind party leaders, caucuses, and conventions of the pledges of their respective parties for the protection of American institutions; and they question all candidates for public office as to their standing on these fundamental principles. It is announced that the first business of the auxiliary or local leagues is the arousing of public attention to the subject of free public-school education, by inducing public-spirited men and women to consider this national question and to supervise at the same time their own local schools. An inspection of the latter may lead to the appointment of committees to examine and report to the auxiliary or local leagues what reforms are needed, and what steps should be taken to secure them. Consultations of this sort throughout the country, it is asserted, would lead to the development of effective plans for removing the public schools from party control. The League offers no opposition to private or parochial schools which do not attempt to draw their support from public funds or subject their pupils to un-American teachings; and, while disapproving of the predominant influence of any particular denomination in the public-

school management, it also disapproves of the exclusion from a fair share in the management of those parents or guardians, of whatever denomination, who send their children to the schools. The headquarters of the League are at 140 Nassau Street, New York city.

NAVAL APPARATUS, NEW. Fiske's Range Finder.—A ready means for determining the exact position and range of an object to be fired at, whether from a fort or war vessel, is of the greatest practical importance in gunnery; and anything that can give this information at a glance, and at the same time be simple in construction and of easy manipulation, appears at once to the practical minds of the sailor and soldier whose duties are the pointing and firing of the guns. Lieut. Bradley A. Fiske, of the navy, has devoted considerable attention to this subject, and has produced an extremely ingenious instrument for use on board ship, called a range finder, and another somewhat similar instrument for army use, which is called a position indicator. A decidedly novel application of the Wheatstone bridge as a means of measuring the angles, and by means of which ranges or distances can be read directly from a scale, forms the principle on which the whole is based. Broadly considered, the method consists in determining a fractional portion of a conductor, bearing in length a ratio to the angle included between two lines of sight directed upon a distant object, and simultaneously causing a disturbance in an electrical balance, including the conductor in its circuit, proportional to the resistance of the fractional portion, and observing the difference in potential due to the disturbance. The accompanying diagram illustrates the simple and ingenious manner in which this is carried out. A B is the base line, T the position of a distant object, the range of which, A T, is to be determined. By trigonometry, in the triangle A

T B, $AT = \frac{AB}{\sin \angle A T B} \times \sin \angle A B T$. Let C and D represent two telescopes pivoted at the points A and B, and sweeping over arcs E and F of conducting material, the arcs having their extremities upon the base line A B. Let the telescope C be directed upon the point T, assuming the position C' in dotted lines. Then, obviously, the angle C' A C is equal to the angle A T B, and the portion of the arc E included between the positions C and C' of the telescope will measure the angle A T B. In the foregoing formula the base line A B is known by measurement, and the angle A B T may be observed; and if the angle A B T is, as shown in Fig. 1, a right angle, then the $\sin \angle A B T$ becomes unity. It remains, therefore, to find the angle A T B in order to determine the distance A T, so that it becomes necessary to provide a simple and rapid means of at once determining what the angle A T B is. To this end, the conducting arcs E, F, are connected in the manner of a Wheatstone bridge, the four members of which are shown respectively at a, b, c, d. In this bridge is connected a galvanometer in the usual way, and also the battery h, the terminals of the battery wire being connected to the telescopes at their pivot points A, B, so that the circuit proceeds through the telescopes to the arcs, and then at the arc F divides through the wires b, d, and at the arc E

divides through the wires a, c. When the two telescopes C and D stand at right angles to the base line, and hence parallel to each other, the bridge will balance and no deflection will be shown at the galvanometer. But if the telescope be moved out of parallelism with the other, then the bridge will be thrown out of balance and the galvanometer will be deflected. The extent of this deflection depends upon the length of arc included between the two positions of the telescope, and will be greater as that arc increases, so that with a battery of constant electro-motive force it becomes possible to determine the extent of movement of the telescope by simply observing the indicator of the galvanometer, which is graduated to yards. The resistance of the galvanometer has been neglected, and it has been assumed that the E, M, F, and internal resistance of the battery and the resistance of the various contacts remain constant.

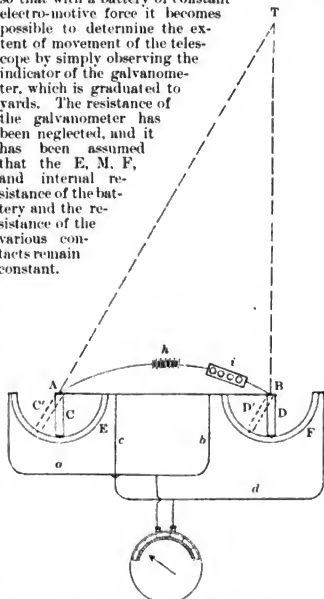


FIG. 1.—RANGE FINDER DIAGRAM.

While this is not theoretically true, Lieut. Fiske finds that by using storage batteries and by making the contacts carefully, no appreciable error is introduced. Careful experiments with this range finder at sea show that the errors of the instrument are insignificant and the indications absolutely instantaneous. The telescope is mounted upon the top of a hollow pedestal, through which the wires are led, and as aluminum bronze and iron are the materials used, it can be left on deck without any protection other than that afforded by a cover placed over the telescope. These instruments are placed one at the bow of the vessel and another at the stern, which gives a long base line; another pair are placed one at either end of the bridge, which offers a shorter base line, but one of sufficient length for the accurate

determining of the distance. Telephonic communication is used between the instruments for convenience of adjustment and angling. The

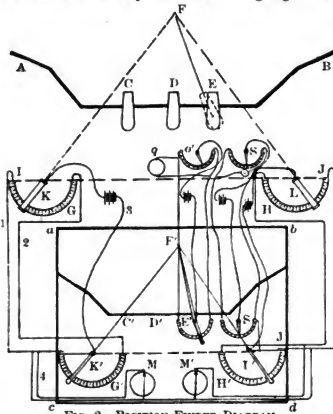


FIG. 2.—POSITION FINDER DIAGRAM.

accuracy of the range finder is less than one half of 1 per cent. at three thousand yards.

A mere distance finder does not meet the necessities of a fort, as the men at each gun must know how far the target is from that gun and in what direction, and as it is absolutely necessary to locate and indicate the position not only of one, but of several ships, Lieut. Fiske conceived the idea of the "position finder" as the solution of the problem. One of these instruments is intended to be attached to each group of guns, then these different groups can be concentrated on one ship, or made to fire at different ships, according to the judgment of the commanding officer. In the figure A B represents a line of the defensive work. C, D, E, are guns commanding the area which includes the position F. The object to be attained is to lay all the guns correctly upon the target, although the persons in charge of the guns may be unable to see the target, and be ignorant of its bearing and distance. G and H are arcs of conducting material placed symmetrically with respect to a base line, I J. These arcs are located at stations distant from the positions of the guns, and so situated that a view of the area to be protected by the guns will not be cut off from the stations by smoke, points of land, or other obstacles. For this reason it is better that elevated positions should be chosen for the stations.

K and L are two pivoted telescopes, the free ends of which move over the arcs G and H, and constantly maintain electrical contact therewith. These telescopes may be directed upon the target, which will, therefore, be at the intersection of the two lines of sight of the telescopes. Located at a station distant both from the guns and from the positions of the arcs G, H, and usually at a place safe from the effects of the ene-

my's fire, there is established a directing station in which is a chart or map represented by *a, b, c, d*, and on which are lines drawn to correspond to the parapet of the fort, the base line, etc. K' and L' are pivoted arms similar to the arms K, L, the free ends of which pass over and make constant contact with the arcs G' and H'. Extending from the extremities of the arc G' are wires 1 and 2, and extending from the pivoted telescope K to the pivoted arm K' is a wire 3, which includes a battery; a galvanometer is also in the circuit. The wires 1, 2, 3, 4, the arcs G, G', the battery, and the galvanometer are connected in circuit in the form of a Wheatstone bridge, and the effect of moving the telescope to the right or left is to increase or decrease the resistance. If the two telescopes be sighted upon the target, and if a third observer moves the arms K' and L', and at the same time watches the galvanometers M, M', he will have placed the arms K', L' at precisely the same angles as the telescopes K, L, when both galvanometers show zero reading. Inasmuch as the chart bears a definite proportion to the area which includes the position of the target, it follows that if the axes of the arms K', L' be prolonged they will intersect at the position F', which on the chart would represent the actual position of the target. The latest improvement in this *position indicator*, and one which gives less than one third of 1 per cent. error, does away with the chart station and its appendages. The ground over which the batteries sweep is delineated on a brass plate, which is fitted inside the tripod of one of the instruments. Over the plate sweeps two pointers, one



FIG. 3.—FISKE POSITION FINDER IN USE.

of which is moved by the movement of the telescope overhead, to which it is parallel, the other pointer is in electrical connection with the second telescope at the other end of the base line. The distance between the pivots of the two telescopes represents the length of the base line, and the pointers the distance from either end of the base

line to the target. The brass plate is divided into a number of squares, the sides of which are in proportion to the sides of the squares into which the actual territory coming under observation is divided. When the two telescopes are parallel the needle of a galvanometer included in the circuit points to zero, moving either telescope throws in a different resistance, and the needle of the galvanometer is deflected. There is a slider moving along one of the movable arms, which are graduated in yards, and the number of yards at which the slider rests when the needle of the galvanometer is again at zero shows the distance the target is off, while the point of intersection of the movable arms is the exact location of the target. The square over which this intersection is located is then, with the distance, reported to the battery officer, so that he can regulate the pointing of his guns.

NEBRASKA, a Western State, admitted to the Union March 1, 1867; area, 76,855 square miles. The population, according to each decennial census since admission, was 122,993 in 1870; 452,402 in 1880; and 1,058,910 in 1890. Capital, Lincoln.

Government.—The following were the State officers during the year: Governor, John M. Thayer, Republican; Lieutenant-Governor, George D. Meiklejohn; Secretary of State, Benjamin R. Cowdery; Auditor of Public Accounts, Thomas H. Benton; Treasurer, John E. Hill; Attorney-General, William Leese; Superintendent of Public Instruction, George B. Lane; Commissioner of Public Lands and Buildings, J. Steen; Chief Justice of the Supreme Court, Amasa Cobb; Associate Justices, Samuel Maxwell and T. L. Norval.

Population.—The following table presents the population of the State by counties, as ascertained by the national census of 1890, compared with the population for 1880:

COUNTIES	1880.	1890.	Increase.
Adams	10,235	24,808	14,665
Antelope	8,938	10,399	6,446
Arthur	.....	91	91
Banner	.....	2,435	2,435
Blackbird	109	.....	* 109
Blaine	.....	1,146	1,146
Boone	4,170	8,683	4,513
Box Butte	.....	5,494	5,494
Brown	.....	4,359	4,359
Buffalo	7,531	22,162	14,631
Butler	6,937	11,099	4,162
Butte	9,194	15,454	6,260
Cass	16,688	24,980	7,297
Cedar	2,899	7,028	4,129
Chase	70	4,807	4,737
Cheyenne	1,558	5,698	4,135
Cherry	.....	6,428	6,428
Clar	11,294	16,310	5,016
Colfax	6,588	10,438	3,850
Cuming	5,589	12,265	6,696
Custer	2,211	21,677	19,466
Dakota	8,213	3,856	2,173
Dawes	.....	9,732	9,732
Dawson	2,909	10,129	7,220
Deuel	.....	2,898	2,898
Dixon	4,177	8,084	3,907
Dodge	11,268	19,290	7,997
Douglas	37,645	158,068	120,368
Dundy	87	4,012	3,925
Fillmore	10,294	16,092	5,798
Franklin	5,465	7,698	2,233
Frontier	984	8,497	7,513
Furnas	6,407	9,840	3,433
Gage	13,164	26,344	23,180
Garfield	.....	1,659	1,659
Gosper	1,673	4,816	3,143

COUNTIES.	1880.	1890.	Increase.
Grant	.....	458	458
Greeley	1,461	4,469	3,408
Hall	5,572	16,513	7,941
Hamilton	8,367	14,096	6,829
Harlan	6,086	8,178	2,072
Hayes	119	8,958	8,834
Hitchcock	1,012	5,799	4,787
Holt	3,287	13,672	10,385
Hooker	.....	426	426
Howard	4,891	9,490	5,099
Jefferson	8,096	14,850	6,754
Johnson	7,595	10,333	2,738
Kearney	4,072	9,061	4,989
Keza Paha	.....	9,920	9,920
Keith	194	2,566	2,362
Kimball	.....	959	959
Knox	3,666	8,582	4,916
Lancaster	28,090	76,805	48,805
Lincoln	3,662	10,441	6,809
Logan	.....	1,378	1,378
Loup	.....	1,662	1,662
Madison	5,589	13,669	8,080
McPherson	.....	401	401
Merick	.....	8,758	8,757
Nance	1,212	5,773	4,561
Nemaha	10,451	12,990	2,479
Nuckolls	4,285	11,417	7,132
Otoe	15,727	25,448	9,676
Pawnee	6,920	10,840	3,920
Perkins	.....	4,964	4,964
Phelps	2,447	9,469	7,422
Pierce	1,202	4,864	3,662
Platte	9,511	18,487	8,976
Polk	.....	10,817	9,817
Red Willow	8,044	8,837	5,798
Richardson	15,081	17,754	2,543
Rock	.....	3,088	3,088
Saline	14,491	20,097	6,096
Sarpy	4,481	6,575	2,094
Saunders	15,810	21,577	5,767
Scott's Bluff	.....	1,888	1,888
Seward	11,147	16,140	4,998
Sheridan	.....	8,687	8,687
Sherman	2,061	6,399	4,388
Sioux	809	2,452	1,753
Stanton	1,813	4,619	2,806
Thayer	6,118	12,788	6,625
Thomas	.....	517	517
Thurston	.....	3,176	3,176
Valley	2,824	7,092	4,268
Washington	8,631	11,869	3,238
Wayne	815	6,169	5,354
Webster	7,104	11,210	4,106
Wheeler	644	1,683	1,039
York	11,170	17,729	6,109
Unorganized territory	2,918	695	* 2,218
Total	452,402	1,058,910	606,508

* Decrease.

Finances.—The following facts are presented by the State Treasurer in his biennial report:

Dec. 1, 1888, cash on hand	\$936,298 72
Receipts since Dec. 1, 1888	4,686,328 42

Total	\$5,622,627 14
Disbursements since Dec. 1, 1888	\$4,028,378 94
Nov. 30, 1890, balance on hand	1,599,248 20

The balances in the more important funds on Nov. 30, 1890 were as follow:

General fund	\$404,267 88
Sinking fund	195,388 89
Permanent school fund	522,364 86
Temporary school fund	805,062 99
Permanent university fund	3,850 75
Temporary university fund	47,782 65
Agricultural college endowment fund	11,813 71
Hospital for insane fund	11,084 42

The assessed valuation of the taxable property of the State in 1889 was \$182,763,538.41, an increase of \$6,750,717.96 compared with the assessment of 1888. The assessment of 1890 gave the value of property for taxation as \$184,770,304.54, a total increase for two years of \$8,757,484.09.

The rate of taxation for State purposes in 1889 was about 6.5 mills, of which 4.9 mills were for the general fund, .7 mill for the school fund, and the remainder for special funds. The rate for 1890 was about 6.25 mills, of which 4.4 mills were for the general fund, .6 mill for the school fund, and the remainder for special funds. The State debt remains at \$449,267.35.

County Debts.—The total debt of Nebraska counties in 1890 was \$5,302,081, an increase of \$95,383 in ten years. Of this total, the sum of \$5,033,014 is a bonded debt, and \$269,077, a floating debt. Hardly one fourth of the counties are without debt.

Education.—The number of children of school age has increased from 298,006 in 1888 to 332,243 in 1890, and the number enrolled in the public schools has risen in the same time from 215,889 to 240,350. The average daily attendance in 1888 was 129,628, while in 1890 it had increased to 146,139. There are now 5,973 school-houses, an increase of 750 in two years.

The number of teachers employed in the public schools for the school year ending in 1890 was 10,555—2,861 males, at an average salary of \$43 a month, and 7,694 females, at an average salary of \$37.92 a month. The amount of money paid for teachers' salaries was \$2,051,349.69, an increase of \$351,565.08 over the amount paid in 1888. The average length of term in each school district has been increased three days over any previous year, 4,408 districts having had from six to ten months of school during the school year.

The enrollment of students in the State University has been steadily growing. In 1887-'88 there were 406; in 1888-'89 there were 427; in 1889-'90 there were 475. For the current year, 1890-'91, there are enrolled 513 students. Of this number 208 are women and 305 men.

Charities.—At the Nebraska Hospital for the Insane, at Lincoln, there were 392 patients on Dec. 1, 1888; 398 patients were received during the two years ensuing, and 448 were discharged, leaving 342 in the hospital on Nov. 30, 1890. This institution, in spite of the fact that 2 new State hospitals have recently been completed and filled, has still on its rolls 42 more patients than should be accommodated, and but very few of the insane who were two years ago cared for in county jails or almshouses have been removed to the State institutions.

The Norfolk Hospital for the Insane was opened in 1887. Since the meeting of the last Legislature 2 wings to the main building have been erected. The number of patients on Dec. 1, 1888, was 129; there were 219 received during the two years ensuing, and about 150 discharged.

The Asylum for Incurable Insane, at Hastings, was opened on Aug. 1, 1889, since which time 174 patients have been received, of whom 160 remained on Nov. 30, 1890. There are on file 100 applications for admission of patients; but none can be received for want of room.

During the biennial period ending Nov. 30, 1890, there were 165 pupils in attendance at the Institution for the Deaf and Dumb, and 72 at the Institution for the Blind. The Institution for Feeble-Minded Youth contained 134 inmates at the end of the period. Provision was made by the Legislature of 1887 for the establishment of

the Nebraska Industrial Home, under the supervision of the Women's Board of Associate Charities. The institution was opened May 1, 1889. The number admitted up to Nov. 30, 1890, was 59.

The report of the commandant of the Soldiers' and Sailors' Home, at Grand Island, shows that 238 persons have been admitted to the home during its existence. At present there are 150 members on the rolls.

Prisons and Reformatories.—On Dec. 1, 1888, there were 338 convicts at the State Prison; during the two years ensuing 349 were received and 300 discharged, leaving 387 in the prison on Nov. 30, 1890.

The State Industrial School, at Kearney, contained 275 pupils on Nov. 30. Since the organization of the school 471 boys and 149 girls have been committed to it by the courts.

Railroads.—The report of the State Board of Transportation on the mileage of railroads in the State, Dec. 1, 1890, shows a total mileage of 5,440.29.

The Drought Sufferers.—The farmers in the western portion of the State suffered severe losses during the year through the prevailing dry weather. In some counties the crops were almost an entire failure, in others scarcely one fourth of a crop was raised. During September and October reports of destitution among the farmers of the drought-stricken counties reached the Governor, but it then seemed that each county would be able to care for its own people. In the early part of November, however, the appeals for help rapidly multiplied, and the Governor appointed two persons to visit the afflicted region and report the true situation. They found the facts even worse than had been represented. The Governor thereupon issued an appeal to the public for contributions, and appointed a committee to receive and distribute them. A generous response was received, and the railroads transported all supplies for the sufferers free of charge. From reports obtained from each county in the latter part of December, the Governor estimated that at least 6,011 families would require fuel and provisions during the winter and spring, and 9,938 families would need grain and seed for the spring planting. A relief appropriation of at least \$200,000 from the Legislature of 1891 will be needed.

Proposed Legislative Session.—So vigorous an agitation was carried on in the State during the early part of the year against the prevailing railroad freight rates, and in favor of a larger volume of circulating medium, that Gov. Thayer issued his proclamation on May 24, calling a special session of the Legislature to assemble at Lincoln on June 5. The subjects for legislation mentioned in the call were the establishment of maximum railway freight rates, the abolition of the State Board of Transportation, the adoption of the Australian ballot system, and the passage of resolutions in favor of a greater issue of money and free coinage of silver. This course of the Governor's met with so much opposition from his own party, and there was so much doubt whether the proposed session would be legal unless certain vacancies in the membership of each House should first be filled (for which no time then remained), that the Governor, on May 31, revoked his proclamation.

Political.—The political contest of this year exceeded in interest any in recent years. The prohibition question was discussed from one end of the State to the other, vigorous efforts being made by the temperance organizations to carry through the proposed prohibitory amendment. At the same time the Farmers' Alliance was active in arousing among the farmers of the State a spirit of discontent. The railroads were especially attacked by the Alliance orators, and radical reductions in the freight rates on agricultural products were demanded. The existing rates were denounced as ruinous to the farming interests. The tariff policy of the Republican party was also denounced, and the farmers were urged to protest against the wrongs they were suffering, by independent political action.

The first State convention for the nomination of candidates was held by the Republicans at Lincoln, on July 24, at which the following ticket was nominated: For Governor, Lucius D. Richards; for Lieutenant-Governor, Thomas J. Majors; for Secretary of State, John C. Allen; for Auditor, Thomas H. Benton; for Treasurer, John E. Hill; for Attorney-General, George H. Hastings; for Superintendent of Public Instruction, A. K. Goudy; for Commissioner of Public Lands, A. R. Humphrey. The platform includes the following:

We favor such revision of the election laws of the State as will guarantee to every voter the greatest possible secrecy in the casting of his ballot, and secure the punishment of any who attempt the corruption or intimidation of voters.

We are in favor of laws compelling railroads and manufacturers to use all appliances which science supplies for the protection of laborers against accidents.

We demand the enactment of a law defining the liability of employer for injuries sustained by employees in cases where proper safeguards have not been used in occupations dangerous to life, limb, or health.

Railroad and other public corporations should be subjected to control through the legislative power that created them.

We demand of the State that the property of corporations shall be taxed the same as that of individuals; that the provision of our Constitution requiring the assessment of franchises shall be enforced by suitable legislation.

We demand the reduction of freight and passenger rates on railroads to correspond with rates now prevailing in adjacent States in the Mississippi valley, and we further demand that the next Legislature shall abolish all passes and free transportation on railroads, excepting for employees of railroad companies.

We favor the modification of the statutes of our State in such manner as shall prevent the staying of judgments secured for work and labor, and the enactment of such laws as shall provide for the speedy collection of the wages of our laborers.

Owners of public elevators that receive and handle grain for storage should be declared public warehousemen, and compelled under penalty to receive, store, ship, and handle the grain of all persons without discrimination, the State regulating charges for storage and inspection. All railroad companies should be required to switch, handle, haul, receive, and ship the grain of all persons alike without discrimination.

We favor the enactment of more stringent usury laws, and their strict enforcement under severe penalties.

The omission from the platform of any reference to the pending prohibitory amendment, or to the liquor question, was a significant feature of the convention proceedings.

On July 29, pursuant to a call issued about two months earlier, a State convention composed of representatives of the State Grange, the Farmers' Alliance, and the Knights of Labor, assembled at Lincoln to form a People's Independent party and to nominate a State ticket. The call for the convention contained a declaration of principles to which the signers subscribed, and these principles, with some additions, were adopted as the platform for the new party, in the following form:

Our financial system should be reformed by the restoration of silver to its old-time place in our currency and its free and unlimited coinage on an equality with gold, and by the increase of our money circulation until it reaches the sum of \$50 per capita; and all paper issues necessary to secure that amount should be made by the Government alone and be full legal tender for all debts, public and private.

Land monopoly should be abolished either by limitation of ownership or graduated taxation of excessive holdings, so that all the competent should have an opportunity to labor, secure homes, and become good citizens; and alien ownership should be prohibited.

The railroad system, as at present managed, is a system of spoliation and robbery, and its enormous bonded debt at fictitious valuations is absorbing the substance of the people in the interest of millionaires; the General Government should own and operate the railroads and telegraph, and furnish transportation at cost, the same as mail facilities are now furnished; and our Legislature should enact a freight law which shall fix rates no higher than those now in force in Iowa.

We demand the adoption of the Australian ballot system. That eight hours shall constitute a legal day's work, except for agricultural labor. That the soldiers of the late war shall receive a liberal service pension.

The following ticket was nominated by the convention: For Governor, John H. Powers; for Lieutenant-Governor, W. H. Dech; for Secretary of State, Charles N. Mayberry; for Treasurer, J. V. Wolfe; for Auditor, John Batie; for Attorney-General, Joseph W. Edgerton; for Superintendent of Public Instruction, A. D'Allemant; for Commissioner of Public Lands, W. F. Wright. An effort to secure from the convention a declaration in favor of the prohibitory amendment was unsuccessful.

On Aug. 14, the Democratic State Convention met at Omaha and made the following nominations: For Governor, James E. Boyd; for Lieutenant-Governor, Alexander Bear; for Secretary of State, Frank W. Sprague; for Treasurer, W. A. Cushing; for Auditor, R. B. Wahlquist; for Attorney-General, John H. Higgins; for Superintendent of Public Instruction, C. D. Rakestraw; for Commissioner of Public Lands, Jacob Bigler. The platform favors coinage of silver, ballot reform, and the election of United States Senators by the people, and contains the following:

We roundly denounce the maintenance of the State militia as an expensive Republican luxury, of no benefit in any respect, and demand its immediate repeal by the next Legislature.

The Democratic party has a record of opposition to all sumptuary legislation, and does not believe that the social habits of a people are proper subjects for constitutional provisions. High license and local option, however, have been tried in Nebraska and have given satisfaction to a majority of the people. As between them and prohibition, the Democratic party is unreservedly in favor of the former.

The Democratic party has ever been the friend of the farmer and laborer, and pledges itself on all questions of mortgages, usury, railroad discriminations, extortionate freight rates, and kindred subjects, to lift, as far as it has constitutional power, the burdens from the wearied shoulders of the men who toil.

The fourth State ticket in the field was nominated at Lincoln, on Aug. 29, by the Prohibitionists. It contained the following names: For Governor, B. L. Paine; for Lieutenant-Governor, George W. Woodbey; for Secretary of State, Charles Watts; for Treasurer, H. W. Hardy; for Auditor, A. Fitch, Jr.; for Attorney-General, F. P. Wigton; for Superintendent of Public Instruction, Mrs. Mary R. Morgan; for Commissioner of Public Lands, C. Olson. Resolutions were adopted declaring adherence to the principles of the National Prohibition platform of 1888, declaring constitutional and statutory prohibition the most vital issue before the people, denouncing license, declaring the Prohibition party the only champion of the home in its contest with the liquor monopoly, declaring for the Australian ballot, favoring a reduction in the hours of labor, condemning trusts, inviting the laboring men to join in the suppression of the liquor traffic, declaring for woman suffrage, demanding State ownership of railways and transportation at cost, favoring just pensions, and favoring the election of President, Vice-President, and United States Senators by popular vote.

At the November election the defection from the Republican ranks was so great as to wipe out the usual Republican plurality for the head of the ticket and to reduce the Republican plurality for the remaining offices to a few thousand votes. For Governor the vote was: Boyd, Democrat, 71,331; Powers, Independent, 70,187; Richards, Republican, 68,878; and Paine, Prohibition, 3,676. On the face of the returns the Democratic candidate was therefore elected. For Lieutenant-Governor, the following vote was cast: Majors, Republican, 74,286; Dech, Independent, 71,127; Bear, Democrat, 63,468; Woodbey, Prohibition, 4,515. The remaining Republican candidates were elected by nearly the same vote. Members of the Legislature were chosen at the same time, as follow: Senate, Republicans 7, Democrats 8, Independents 18; House, Republicans 21, Democrats, 28, Independents 50, Knight of Labor 1.

On the question whether an article prohibiting the manufacture and sale of intoxicating liquors should be added to the State Constitution, the vote was 82,292 in favor of the amendment, and 111,728 against it. On the converse proposition that a provision be inserted in the Constitution authorizing the granting of licenses for the sale of liquor the vote was 75,462 for the amendment, and 91,084 against it. The people were apparently disinclined to put into their fundamental law any provision whatever regarding the liquor traffic. Two other proposed amendments to the State Constitution were voted upon at the same time, and rejected. The amendment increasing the number of justices of the Supreme Court from three to five, and shortening the term to five years, received 86,418 affirmative and 53,022 negative votes; the amendment increasing the salary of the justices

to \$3,500, and of district judges to \$3,000, received 69,192 affirmative and 61,519 negative votes. The total vote cast in the election was 214,861, a majority of which in favor of any proposed amendment is necessary to its adoption as a part of the State Constitution. Of the three members of Congress elected, one is a Democrat, one a Democrat and Independent, and one an Independent.

No sooner had the vote for State officers, as given above, been officially ascertained than the candidates on the Independent or Farmers' Alliance ticket prepared to contest the election. Formal notice of the contest was served in the last week of November upon Governor-elect Boyd and the successful Republican candidates. This notice contained numerous charges of fraud, conspiracy, intimidation, bribery, unlawful voting, and unlawful procedure in the election at Omaha, as well as charges of bribery, unlawful voting, and unlawful procedure in Douglas, Lancaster, Saline, Saunders, Otoe, Hall, Sarpy, Platte, Dodge, Box Butte, Red Willow, and other counties. The taking of testimony began at Lincoln on Dec. 4, at Omaha on Dec. 15, and at Norfolk on Dec. 22. A week or more was consumed at each place, and by the close of the year a large mass of testimony had been secured.

NETHERLANDS, a constitutional monarchy in western Europe. The legislative power is vested in the States-General, consisting of an Upper Chamber of 50 members, elected for nine years by the Provincial States from among the most highly assessed tax payers of the 11 provinces, and of a Second Chamber of 100 Deputies, elected for four years by the direct suffrage of all male citizens twenty-three years of age who pay 10 guilders taxes on real property or a personal tax on property beyond the amount that is partially exempt. The franchise was extended by the law of Nov. 30, 1887, and still the total number of electors does not exceed 290,000. Willem III, at his death, was succeeded, on Nov. 20, 1890, by his daughter, Willemine, born Aug. 31, 1880. During her minority her mother, Queen Emma, born Aug. 2, 1858, daughter of Prince George Victor of Waldeck, will act as Regent.

The Cabinet, as reorganized on Feb. 17, 1890, is composed of the following Ministers: President of the Council, Baron Mackay, appointed April 20, 1888; Minister of the Interior, A. F. de Savornin Lohman, appointed Feb. 17, 1890; Minister of Foreign Affairs, C. Hartsen, appointed April 20, 1888; Minister of Finance, K. A. Godin de Beaufort, appointed April 20, 1888; Minister of Justice, G. L. M. K. Ruys van Beerenbroek, appointed April 20, 1888; Minister of the Colonies, Baron Mackay, appointed Feb. 17, 1890; Minister of Marine, H. Dyerinck, appointed April 20, 1888; Minister of War, J. W. Bergansius, appointed April 20, 1888; Minister of Public Works and Commerce, J. P. Havelaar, appointed April 20, 1888.

Area and Population.—The area of the kingdom is 12,648 square miles. The estimated population on Dec. 31, 1889, was 4,548,596, comprising 2,252,742 males and 2,295,854 females. The number of marriages in 1889 was 31,494; of births, 157,972; of deaths, 98,577; excess of births, 59,395. The number of emigrants who sailed from Dutch ports in 1888 was 18,137,

against 19,192 in 1887 and 11,924 in 1886. The emigrants of Dutch nationality numbered 3,729 in 1884, 2,121 in 1885, 2,002 in 1886, 5,018 in 1887, and 4,298 in 1888, nearly all of whom went to the United States. The city of Amsterdam on Dec. 31, 1889, had 406,316 inhabitants; Rotterdam, 203,472; the Hague, 156,497; Utrecht, 85,253; Groningen, 55,215; Haarlem, 52,155.

Finances.—The total revenue is estimated in the budget for 1890 at 122,209,900 guilders (1 guilder equals 40 cents), of which 27,589,250 guilders are derived from direct taxation, 43,485,000 guilders from excise, 23,450,500 guilders from stamps, registration, succession duties, etc., 5,110,500 guilders from customs, 6,650,000 guilders from postal receipts, 2,900,000 guilders from railroads, 2,750,000 guilders from domains, 1,350,000 guilders from pilot dues, 1,265,000 from telegraphs, 661,500 guilders from the public lottery, and 6,998,150 guilders from other sources. The total expenditures are estimated at 134,648,825 guilders, apportioned as follow: Royal household, 650,000 guilders; Cabinet and Legislature, 640,794 guilders; foreign affairs, 731,369 guilders; Justice, 5,173,623 guilders; Interior, 10,357,971 guilders; marine, 13,981,237 guilders; war, 20,737,165 guilders; public debt, 33,445,100 guilders; finance, 7,849,132 guilders; loss on nominal value of old silver money, 5,000,000 guilders; payment to communes as indemnification for the suppression of *octrois*, 8,572,000 guilders; worship, 1,975,462 guilders; central administration of colonies, 1,351,476 guilders; Waterstaat Commerce and Industry, 22,050,296 guilders; railroads, 2,082,200 guilders; unforeseen expenses, 50,000 guilders.

The public debt in 1890 consisted of 611,779,200 guilders of 24-per-cent. bonds, 90,299,150 guilders paying 3 per cent., 6,167,000 guilders of 34-per-cent. sinking-fund bonds, and 342,008,900 guilders of new 34-per-cent. stock issued under the law of May 9, 1886, to take up the 4-per-cent. debt, making in all 1,050,254,250 guilders. The paper money in circulation is 15,000,000 guilders. The interest in 1890 amounted to 30,372,390 guilders, and redemptions to 2,472,700. A new loan is to be raised to cover deficits of recent years amounting to 36,500,000 guilders, due mainly to purchases of railroads and the abolition of tolls on the Amsterdam canal. The demonetization of silver has been deferred.

The Army and Navy.—The period of service in the regular army is fixed at five years. The actual custom is to give leave of absence to conscripts after twelve months of service with the colors, only six weeks' annual drill being required for the other four years. Substitution is practiced on a large scale, and re-enlisted soldiers are the valuable element in the army. From the age of twenty-five every citizen is enrolled for ten years in the Schutteryeen or civic guard, and up to the age of fifty he is liable to duty if a general levy is called out. The European army in 1890 had 1,060 officers and 42,908 men in the infantry, 143 officers and 3,988 men in the cavalry, 563 officers and 13,939 men in the artillery, and 98 officers and 1,614 men in the engineers, making, with 17 officers and 79 men in the recruiting camp for colonial troops and 14 officers and 564 men in the mounted police, a total force of 2,364 officers and 63,485 men, or 65,849 alto-

gether. Adding 41,403 men forming 212 companies of active Schutteryeen and 77,650 men forming 89 battalions of sedentary Schutteryeen, the war strength of the Dutch army is 184,902 men without counting the Landstorm nor the rifle societies.

The naval force in July, 1890, comprised 6 ram-bowed turret ships, 2 first-class and 5 second-class monitors, and 5 armor-clad vessels for river defense, besides 27 cruisers of various classes, 7 side-wheeled steamers, 31 gunboats, 36 torpedo boats, 5 stationary vessels, 15 school ships, and 6 other vessels. The *personnel* in 1890 comprised 860 officers and employés and 7,156 sailors, without counting 2,911 men in the naval militia and 895 native sailors in the service of Netherlands India. The marine infantry numbered 55 officers and 2,085 men.

The deferred project of reorganizing the army and navy on the German model, which was adopted in principle as early as 1881, but has not been carried out in many essential particulars, was submitted for the action of the Chambers in a bill offered by the Government on June 30, 1890, the discussion of which was not finished in the session. By this measure the army will consist of 115,000 men, with a reserve of 50,000. Personal service will be obligatory. The total period of service will be eleven years for the navy and thirteen years for the army. The Landstorm will embrace all able-bodied male citizens under the age of forty from the conclusion of the five years of service in the active army, five in the reserve, and five in the Landwehr. The measure will add 1,322,500 guilders a year to the war budget and will give 9 new battalions to the standing army.

Commerce.—The total value of imports of merchandise for domestic consumption in 1889 was 1,241,100,000 guilders. Articles of food and drink were imported to the amount of 370,500,000 guilders; raw materials, 306,500,000 guilders; manufactures, 185,300,000 guilders; miscellaneous merchandise, 378,800,000 guilders. The total value of exports of domestic produce and manufactures was 1,078,600,000 guilders. Of this amount, 339,800,000 guilders represent articles of food and drink, 190,400,000 guilders raw materials, 181,900,000 guilders manufactured articles, and 366,500,000 guilders miscellaneous commodities. The imports of precious metals were 4,200,000 guilders, and the exports 15,500,000 guilders, making the total special imports 1,245,300,000 and the exports 1,094,100,000 guilders. Of the imports 297,400,000 guilders came from Great Britain, 269,600,000 guilders from Germany, 176,600,000 guilders from Belgium, 142,600,000 guilders from the Dutch East Indies, 112,700,000 guilders from Russia, 76,000,000 guilders from the United States, 29,800,000 guilders from British India, 24,000,000 guilders from Roumania, 22,500,000 guilders from France, 19,900,000 guilders from Spain, 17,400,000 guilders from Peru and Bolivia, and 14,400,000 guilders from Sweden and Norway. Of the total exports, 511,100,000 guilders were shipped to Germany, 284,700,000 guilders to England, 140,100,000 guilders to Belgium, 69,100,000 guilders to Dutch India, 22,200,000 guilders to the United States, 11,300,000 guilders to Sweden and Norway, and 10,900,000 guilders to France.

Holland has preserved her free-trade system in spite of the strong current of protectionism that has affected nearly all the countries of Europe. No duties are levied on raw materials, and on manufactured articles a duty is imposed for revenue only of 5 per cent. of the import value. To prevent undervaluation frauds the customs authorities were given power to acquire goods and sell them on account of the Government by paying the importers 10 per cent. more than the declared cost price. Consignors in foreign countries rendered this safeguard useless by invoicing whole car-loads of mixed wares, which the officials would not venture to condemn for fear of involving the treasury in a loss from unsalable articles. For this reason another system was adopted in 1890. A commission of 15 members, 7 of them appointed by the Minister of the Interior, and the rest by the guilds of merchants and manufacturers, determines the market value of the various categories of imports for the coming three months. The classification of duties according to quality must be made by the custom-house officials, and in case their assessment is contested the matter is referred to a committee of three experts.

Navigation.—In 1889 the number of sailing vessels entered at Dutch ports was 1,904, of the aggregate burden of 1,448,103 metric tons, of which 1,657, of 1,397,605 tons, carried cargoes. Of the total number, 824, of 508,950 tons were Dutch. The total number cleared was 1,816, of 1,422,283 tons, 1,051, of 526,521 tons, carrying cargoes. The number of steam vessels entered was 7,281, of 13,329,803 tons, of which 6,863, of 12,879,710 tons, brought cargoes, and 1,921, of 3,051,661 tons, sailed under the Dutch flag. The total number of steamers cleared was 7,006, of 13,136,574 tons, of which 4,791, of 7,830,133 tons, were with cargoes.

The mercantile navy on Jan. 1, 1890, consisted of 500 sailing vessels, of the aggregate capacity of 388,003 cubic metres, and 110 steamers, having a tonnage capacity of 311,170 cubic metres.

Communications.—The length of railroad lines open to traffic on Jan. 1, 1890, was 2,728 kilometres. Of 2,602 kilometres completed up to 1888 the state owned 1,324 kilometres, on which 256,906,000 guilders had been expended. There were 3,068,638 kilometres of canals, and 4,736 kilometres of navigable waters in 1889.

The post-office in 1889 forwarded 50,710,978 domestic and 16,181,930 foreign letters, 28,728,203 postal cards, and 58,942,503 journals, taking in 6,489,816 guilders and spending 4,753,273 guilders.

The length of the state telegraph lines in 1889 was 5,153 kilometres, with 18,089 kilometres of wires. The number of dispatches sent was 4,155,381, of which 2,114,899 were internal, 2,003,296 international, and 37,186 official. The receipts were 1,291,264 guilders; the ordinary expenditure, 1,497,350 guilders; extraordinary expenditure, 68,468 guilders.

Cabinet Changes.—The colonial policy of Minister Kenchenius, one of the leaders of the Orthodox Protestants, was distinguished by a humanitarian regard for the native races and a desire to spread the Christian religion, but was so unsuccessful as to subject him to severe criticism. In the First Chamber, on Feb. 1, the co-

lonial budget was rejected by a majority of a single vote, and the Minister of the Colonies was constrained to resign. So much difficulty was found in filling the vacant place that at last Baron Mackay, the Minister of the Interior and Minister-President, took the portfolio, giving up the Ministry of the Interior to Dr. de Savornin Lohman, the leader in the Second Chamber of the anti-Revolutionary or religious party, but retaining the Premiership. It was necessary to take another ultra-Protestant into the Cabinet in the place of the one who retired, in order to retain the support of that party. The dangerous policy, avowed but not yet carried into effect by the late Minister of the Colonies, of intervening with the power of the Government to Christianize the inhabitants of the Dutch East Indies was disclaimed by his successor.

The Regency.—The return of King Willem's malady in October, 1890, again deprived him of his powers of mind, as in April of the previous year, and the States-General were called together to consider the question of establishing a regency. All the members of both Houses were present to receive Premier Mackay's statement of the result of a medical examination of the King's mental condition, and on Oct. 29, in a plenary sitting, the King was declared incapable of carrying on the Government by a vote of 109 to 5, and in accordance with the constitutional law provided for this contingency the Council of State was invested with the supreme power pending the establishment of a regency, which the Council of State was bound to propose within a month. The choice of a Regent was clearly indicated, Queen Emma, the natural protector of her daughter, the heir-apparent, having been selected for that office when the same emergency occurred before. Under the law of Sept. 14, 1888, she had chosen in the previous October Baron Goltstein, the Chamberlain, Baron Schimmelpenninck von der Oye, Chevalier Roell, and Baron von Brien, to act with the Vice-President and senior member of the Council of State and three judicial functionaries designated in the law as her Council. On Nov. 20 Queen Emma took the oath as Regent during the King's incapacity. The death of her husband three days later necessitated no new action of the States-General, which had constituted her Regent during the minority of the Queen. The Queen-Regent issued a proclamation on Nov. 24 announcing the accession of Queen Willemine and accepting the task to act as Regent during her daughter's minority, and on Dec. 8 she took a new oath on the Constitution to that effect. Queen Emma, who was a princess of Waldeck and Pyrmont, has made herself very popular among the Dutch people, who have long regarded her as no longer a German, but as a Queen who in character and feeling has grown to be one of themselves. By the act of settlement of 1886, the Salic law, previously determining the succession in the house of Orange-Nassau, was repealed, and the crown was devolved upon the daughter of the King and Queen Emma and her issue, if she reaches adult years and marries and bears a child of either sex to succeed her.

Luxemburg.—The succession to the throne in the Grand-Duchy of Luxemburg, which was connected by a merely personal union with Hol-

land under King Willem III, devolves under the Salic law upon Duke Adolphus of Nassau, born July 24, 1817, who is the head of the elder branch, called the line of Walram, who founded the family in the eleventh century, while King Willem represented the cadet line, running back to Connt Otto, who settled in the Netherlands in the fifteenth century, whose descendants became hereditary stadtholders of the Republic of the Netherlands in 1747, and the hereditary sovereigns when it was proclaimed a kingdom in 1815. By the treaty of London, signed May 11, 1867, Luxemburg was declared a neutral territory under the guarantee of the great powers. The legislative authority in the grand-duchy, which has an area of 998 square miles and 213,283 inhabitants, is exercised by a Chamber of 42 members. Duke Adolphus was the reigning prince of the Duchy of Nassau until it was annexed to Prussia, in 1866. When King Willem was declared incapable of ruling in April, 1889, he went to Luxemburg on the invitation of the Chamber and was invested with the powers of Regent, which he resigned as soon as the King was restored sufficiently to resume the Government. On Nov. 6, 1890, the duke took the oath as Regent for the second time in the presence of the Chamber, and on Nov. 24 he was proclaimed Grand-Duke of Luxemburg. He took the oath to observe the Constitution and formally opened his first Parliament on Dec. 9. In the address in answer to the speech from the throne the Assembly declared that the Luxemburgers would know how to vindicate and defend their liberty, welfare, autonomy, and independence.

Colonies.—The colonial possessions in the East and West Indies have an aggregate area of 766,137 square miles and a population more than six times as numerous as that of Holland. The most important colony is Java, which, with the dependent island of Madura, has an area of 131,733 square kilometres or 50,848 square miles and a population of 22,818,179 in the beginning of 1889, of whom 22,526,015 were natives. The European civilians numbered 42,263; Chinese, 233,693; Arabs, 13,365; Hindns and others, 2,843. Batavia, the capital, had 101,274 inhabitants; Soerabaya, 131,682; Samarang, 71,794.

The area of the other Dutch possessions in the East Indies, including Snnatra, Riouw, Banca, Billiton, a part of Borneo, Celebes, the Moluccas, a part of New Guinea, Timor, Bali, and Lombok, is about 1,728,000 square kilometres, and their population is estimated at 8,400,000.

The Governor-General of Dutch India has the supreme executive power and the power of making laws and regulations in all matters not reserved to the States-General of the Netherlands by the regulations for the Government of Netherlands India adopted in 1854. Dr. C. Pijnacker Hordijk has held this office since June 19, 1888. Europeans and persons assimilated to them are governed under Dutch law, while the jurisdiction over natives and the classes assimilated to them is modified by their own customs and institutions.

The receipts of Dutch India, according to the budget for 1890, are 132,653,477 guilders, and the expenses 140,162,812, leaving a deficit of 7,509,335 guilders. The sales of Government Java coffee amount to 39,231,549 guilders; sales of

cinchona, 222,750 guilders; sales of tin, 5,288,890 guilders; lease of the privilege of selling opium, 18,101,000 guilders; customs, 9,750,000 guilders; land tax or tithe, 16,615,000 guilders; salt tax, 7,641,200 guilders; post-office and telegraphs, 1,399,000 guilders; railroads, 6,151,500 guilders; miscellaneous receipts, 28,243,588 guilders. The expenditure in Holland amounts to 25,732,455 guilders, and in India to 114,430,357 guilders. For 1891, owing to the failure of the the coffee crop, a deficit of 20,000,000 guilders is expected, which will be covered by the balances from former years. The receipts are taken as 116,000,000 guilders, and the expenditures as 136,000,000 guilders.

The imports in 1887 amounted to 126,279,000 guilders, 3,274,000 guilders being Government stores, 123,005,000 guilders private merchandise, and 6,623,000 guilders specie. The total value of the exports was 187,159,000 guilders, 19,803,000 guilders standing for Government exports of merchandise, 166,619,000 guilders for private exports of merchandise, and 737,000 guilders for shipments of specie. The exports of sugar were valued at 69,600,000 guilders; of coffee, 30,500,000 guilders; of tobacco, 24,200,000 guilders; of tin, 13,100,000 guilders; of rice, 7,800,000 guilders; of pepper, 6,900,000 guilders; of gum, 2,600,000 guilders; of indigo, 2,400,000 guilders; of tea, 2,200,000 guilders; of peanut oil, 2,200,000 guilders; of skins, 2,100,000 guilders; of rattan, 2,000,000 guilders; of gambier, 1,900,000 guilders; of gutta-percha, 1,900,000 guilders. Of the total exports of Indian produce, the produce of agriculture constituted 84.8 per cent., pastoral produce 1.2 per cent., forest products 6.3 per cent., and mineral products 7.7 per cent.

The greater part of the land in Java belongs to the Government. In the western part of the island there are private estates owned by Dutchmen and Chinese. The private estates of Europeans in 1887 numbered 121, covering 1,140,219 *bahus*, while 229 Chinamen owned 418,196 *bahus*, and 55 other Oriental settlers owned 24,215 *bahus*. The mass of the natives are agricultural laborers, and the law permits the land owner, whether the Government or a private individual, to exact one day's labor in the week from the people living on his land. Forced labor for the Government was to a large extent abolished in 1882 by the law allowing it to be commuted by the payment of a head tax of 1 guilder per annum. Under the provisions of the agrarian law of 1870 a large extent of vacant land has been brought into cultivation by private persons who occupy it under hereditary leases running 75 years. The natives in Java and Madura cultivated in 1887 3,586,616 *bahus* of land (1 *bahu* = 1½ acre). Serfdom under the "culture system," which formerly prevailed throughout the residencies, has never been introduced in the Ontposts, as the Dutch possessions outside Java and Madura are called. In pursuance of the law of 1870 it has been abolished in the cultivation of indigo, pepper, tea, tobacco, and other products, and in 1890 came to an end on the Government sugar plantations, being still retained only for the production of coffee. The sugar-planting industry has largely passed from the Government, which had 38,668 *bahus* in 1879 and only 14,163 in 1887, into the hands of private plant-

ers, whose estates have increased from 4,400 to 25,948 *bahus*. The production of sugar in 1886 on the Government estates in Java was 1,287,067 pikols or 171,608,900 pounds. The production of coffee, including the growths of Sumatra and Celebes, was 1,244,107 pikols, of which over three quarters was raised on Governments lands, more than one fifth on lands held on hereditary lease, called emphyteusis, and small quantities on private and leasehold estates. In 1890 the coffee harvest was almost a total failure in Java. On the Government plantations, which used to produce between 500,000 and 600,000 pikols, a crop of only 95,000 pikols was expected, causing a loss of some 15,000,000 guilders. In 1886 on the 8 Government plantations 262,840 kilogrammes of cinchona were gathered; on 57 plantations held on emphyteusis, 633,882 kilogrammes; on 5 private estates, 138,797 kilogrammes. There were 148 tobacco plantations in 1886, producing 12,611,868 kilogrammes; 41 tea plantations, producing 3,351,627 kilogrammes; and 154 indigo plantations, producing 700,000 kilogrammes. The output of the 418 tin mines of Banca and Billiton, employing 14,870 men, was 162,237 pikols of mineral in 1888.

Since 1883 a disease called *sereh* has attacked the sugar-cane, preventing the healthy development of the plant. It is probably due to a microscopic worm which is found in the roots. Attempts have been made, with promising results, to kill the parasites with sour sugar sirup. Plantations have been kept up by obtaining new cuttings from districts not yet infected, but the disease has now spread to nearly all parts of the island. A large extent of ground has been planted out in Borneo in the hope that the cane in new soil would not be affected. This hope proved illusory, for the germs of the disease soon appeared. Cuttings imported from the Straits Settlements were found to be infected with this and with other diseases as well. Plants grown in the hilly districts for cuttings have been able to withstand infection better than others.

The number of steamers that called at the ports of East India during 1887 was 2,506, with a capacity of 2,125,000 cubic metres, and the number of sailing ships was 305, of 683,000 metric tons. The colonial merchant fleet in 1888 numbered 1,694 vessels, of 227,391 tons.

The railroads of Java in 1890 had a length of 1,228 kilometres, and 155 kilometres of new railroad were building. In Sumatra there were 55 kilometres completed and 212 kilometres under construction. Railroads are being extended on the system of concessions with state guarantees. In Sumatra the Government has undertaken to build a line to the coal beds at Ombiles.

The post-office of Dutch India transmitted in 1888 for the interior 4,913,000 letters, 1,001,000 postal cards, 3,249,000 printed inclosures, and 128,000 money letters and postal orders of the declared value of 10,904,000 guilders, and in the international service 1,152,000 letters, 79,000 postal cards, 4,260,000 papers, circulars, and other articles, and 27,000 money letters and orders representing 2,690,000 guilders.

The length of the state telegraph lines in 1889 was 7,750 kilometres, with 10,023 kilometres of wire, and of private lines 985 kilometres, with 1,151 kilometres of wire. The number of dis-

patches was 476,664, of which 345,181 were internal, 118,192 international, and 13,291 connected with the service.

The army of East India is recruited solely by enlistment from both Europeans and native races, and is officered by Europeans. The effective on Jan. 1, 1889, was 1,406 officers and 33,169 men, of whom 14,984 were Europeans, 77 Africans, and 18,108 natives. The staff and special services numbered 526 officers and 2,458 men; the infantry, 729 officers and 26,482 men; the cavalry, 30 officers and 851 men; the artillery, 110 officers and 2,815 men; and the engineers, 11 officers and 563 men. There are besides the civic guards or *Schutteryen* and various volunteer bodies, having on their rolls 3,968 Europeans and 5,128 natives. For purposes of police and defense against internal dangers a force of steamers and armed sailing vessels is maintained, in part by the mother country, which in the beginning of 1888 had 26 vessels in India manned by 2,595 Europeans and 1,002 natives, while the colonial navy consisted of 88 vessels manned by 116 Europeans and 941 natives. The army depends for its discipline and efficiency mainly on Dutch soldiers, who are allowed to enlist for colonial service. The cavalry is composed of both Europeans and natives. The artillery consists of European gunners and native riders. The infantry is divided into field, garrison, and depot battalions. Each battalion is formed of two companies of Europeans and two of native soldiers, in which latter at least one half of the under officers must be Europeans.

A great sacrifice of human life and expenditure of 200,000,000 guilders have brought the Dutch Government scarcely nearer than in the beginning to the subjugation of Atcheen. In 1878 the outposts extended over a radius of 25 kilometres from the port of Oleh Le. In 1890 the distance had shrunk to 10 kilometres, and even within the fortified lines there was no longer security. The mild and conciliatory administration of the civil governors has been mistaken for weakness by the Atcheenes, and the respect that they formerly showed for an energetic military rule has been dissipated by a humane policy. Negotiations with rebel leaders and even bribes have availed nothing, for the rule of the strongest has always governed this barbarous people. The Sultan has never possessed much authority, the real rulers being the priests and the Kampong chiefs. The Dutch Government can not afford to retire, for the loss of Atcheen would give the *hadjis* or Mussulman priests a welcome opportunity to proclaim through the entire archipelago that the power of the "great lord" is broken, and perhaps to give the watchword for a fanatical uprising. The Liberals in the Dutch Chamber, in their attack on Minister Keuchenius, charged him with rashly incurring the danger, in order to please his Calvinistic and Ultramontane colleagues, of fomenting religious strife, from which Dutch India has happily been free, by taking measures for the protection of the Christian population, which has never asked for such protection, by restricting the liberty of Mohammedan religious teachers. In January, 1890, the blockade of Atcheen was extended over the entire north coast to prevent the introduction of arms and ammunition, with which the

Atheenees have already been well supplied by English traders of the Straits Settlements.

On May 14, 1890, the Atheenees took possession of the fortified position of Benting, near Edi, while it was entirely deserted. The Dutch made a vain effort with 300 men to dislodge them, and lost 4 dead and 24 wounded. A stronger force was brought up, and on June 11 the Atheenees were driven from the elevated positions that they had occupied along the Edi river, leaving 80 dead on the field, while on the Dutch side the loss was 2 officers and 22 men wounded. The Government troops pursued the enemy, and on June 13 attacked Kwalabagoh and Oehgadjah, capturing the latter place with the loss of 3 men wounded. After this success the column returned to Edi. The naval forces co-operated with the army in clearing the neighborhood of Edi of the enemy.

The colony of Surinam or Dutch Guiana, in South America, has an area of 119,321 square kilometres and 66,037 inhabitants, including 12,000 savage Indians and *boschnegers* or descendants of runaway slaves. Paramaribo, the capital, has 27,752 inhabitants. The sedentary population comprised 27,820 males and 26,217 females in 1888. The marriages numbered 117; births, 1,826; deaths, 1,596; excess of births, 230. The budget for 1890 makes the revenue 1,320,813 guilders, and the expenditure 1,627,154 guilders. The imports in 1888 were valued at 4,346,840 guilders, and the exports at 3,316,377. The produce of sugar in 1887 was 8,416,615 kilogrammes; of cacao, 1,602,898 kilogrammes; of bananas, 544,851 bunches; of coffee, 6,668 kilogrammes. The export of gold in 1887 was 1,006,904 grammes, of the value of 1,379,458 guilders. In that year 395 new mining concessions were granted. The value of the gold mined from the first establishment of the industry to the end of 1887 was 9,936,777 guilders. The mining laws have allowed claims to be held without working, and for that reason a large quantity of mineral land has remained idle in the hands of speculators. Operations have been confined to surface mining, and as the richer placers have been worked out two or three of the American companies engaged in the business have retired and production has begun to decline. No attempt has yet been made to sink shafts and begin regular mining operations, and no thorough search has been made for quartz ledges. The Governor of Surinam is assisted in legislative matters by a body called the Provincial States, in which four members are nominated by him and the others are elected in the proportion of one to every 200 electors. Gov. de Savornin Lohman, a brother of the leader of the Orthodox or Pietistic party in the Second Chamber, was appointed Governor in 1888. Although perfect accord between the representatives of the home Government and the colonists has always been the rule, differences arose with the new Governor, who was inexperienced in colonial affairs, and was suspected of having sought the place on account of the emoluments. He conceived it to be his duty to befriend and protect the negro population, believing it to be oppressed by the whites, and on this question an open conflict broke out. The blacks of the Para district having refused to pay taxes, a military force was

sent to restore order; but in consequence of the threatening attitude of the negroes the troops withdrew. In the Colonial States the Governor was requested to explain the situation. He declined to give any information, saying that he was responsible to the sovereign for his acts, and not to the Colonial States. Petitions were sent to the King asking for the recall of the Governor, who had violated precedents in other matters also, and come into collision not only with the representatives of the colonists but with the members of his own council. Thereupon he committed the further illegality, or irregularity, of sending a member of the court of justice to Holland to present his side of the case and of defraying his expenses out of the colonial treasury. The complaints regarding his administration were the chief cause of the adverse vote that led to the resignation of Keuchenius as Minister for the Colonies; but when his brother became Prime Minister he was not disturbed.

A long-standing difference between France and the Netherlands regarding the delimitation of their territories in Guiana became a matter of moment after the discovery of rich gold diggings in the disputed zone. On Nov. 29, 1888, a convention was signed, by which they agreed to submit the question to arbitration, and selected the Emperor of Russia to decide whether the Lawa or the Tapanahoni river was the true boundary. The arbitrator designated in January, 1890, declined to act under the conditions named, and on April 28, 1890, a declaration was signed at Paris by the representatives of the two governments, removing the restriction and agreeing, subject to the approval of the respective Legislatures, to accept an intermediate frontier. The district in dispute is the tract inclosed between the two rivers that unite in the Maroni, which forms the boundary further down. The Dutch Government, affirming that the Lawa was the boundary, would not agree to the French proposal to divide the debated tract that was made before arbitration was discussed. The mines were first discovered and opened by Frenchmen, but, pending the settlement of the dispute, troops were stationed by both governments on either side of the river.

The colony of Curaçao or the Dutch Antilles has an extent of 1,130 square kilometres and a population of 46,461. Curaçao, the largest island, on which Willemstad, the capital, is situated, is 550 square kilometres in extent, with a population of 25,877. The other islands, in the order of their population, but not of their size, are Aruba, Bonaire, St. Martin, Saba, and St. Eustache. In the entire colony were registered 239 marriages, 1,690 births, and only 778 deaths in 1888. The population was divided as to sex into 20,862 males and 25,569 females. The receipts and expenditures in 1890 are balanced in the budget at 672,195 guilders. The imports in 1887 were valued at 3,240,000 guilders. Corn, beans, and cattle, fruit preparations, lime, and salt are the chief products.

NEVADA, a Pacific Coast State, admitted to the Union Oct. 31, 1864; area, 110,700 square miles. The population, according to each decennial census since admission, was 42,491 in 1870; 62,266 in 1880; 45,761 in 1890. Capital, Carson City.

Government.—The following were the State officers during the year: Governor, Christopher C. Stevenson, Republican, who died on Sept. 21; Lieutenant-Governor, and acting Governor after Sept. 21, Frank Bell; Secretary of State, John M. Dormer; Treasurer, George Tuffy, who resigned in August, and was succeeded by George W. Richard; Comptroller, J. F. Hallock; Attorney-General, John F. Alexander; Superintendent of Public Instruction, W. C. Dovey; Chief Justice of the Supreme Court, Thomas P. Hawley, who resigned in November, and was succeeded by R. R. Bigelow; Associate Justices, Charles H. Belknap and M. A. Murphy.

Population.—The following table presents the population of the State by counties, as determined by the national census of 1890, compared with the population in 1880:

COUNTIES.	1880.	1890.	Decrease.
Churchill.....	479	708	* 224
Douglas.....	1,581	1,551	30
Elko.....	5,716	4,794	922
Esmeralda.....	8,220	2,148	1,072
Eureka.....	7,056	3,275	3,811
Humboldt.....	3,480	3,434	46
Lander.....	3,624	2,566	1,058
Lincoln.....	2,637	2,466	171
Lyon.....	2,409	1,987	422
Nye.....	1,875	1,290	585
Ormsby.....	5,412	4,883	529
Roop.....	256	348	* 62
Storey.....	18,115	8,806	7,309
Washoe.....	5,664	6,089	* 425
White Pine.....	2,682	1,721	961
Total.....	62,266	45,761	16,505

* Increase.

In his message to the Legislature of 1891, Gov. Bell says: "The late census shows a considerable falling off in the population of the State. Owing to the extent of territory thinly settled and the small amount of compensation allowed the enumerators, I am satisfied a large number of inhabitants were overlooked in the enumeration. In 1884 the popular vote of the State was 12,789; in 1886, 12,365; in 1888, 12,415; and in 1890, 12,421—certainly no great decrease in six years."

Finances.—The summary of receipts and expenditures at the State treasury for the two years ending Dec. 31, 1890, is as follows: Balance on Jan. 1, 1889, \$641,528.21; receipts for the year ensuing, \$356,707.82; disbursements for the same period, \$418,295.65; balance on Jan. 1, 1890, \$579,940.38; receipts for 1890, \$321,613.87; disbursements for the same period, \$530,995.07; balance on Dec. 31, 1890, \$361,559.18. Of this balance the sum of \$159,411.78 was in the general fund, \$88,113.13 in the State school fund, \$24,212.38 in the general school fund, \$22,201.57 in the State interest and sinking fund, \$20,858.20 in the Territorial interest and sinking fund, and \$23,025.04 in the State University fund. The disbursements for 1890 include an item of \$245,452.18 for the purchase of \$200,000 United States 4-per-cent. bonds for the State school fund, which, if deducted, would leave \$294,542.89 as the actual State expenses for that year.

The State debt on Dec. 31, 1890, amounted to \$579,887.83, divided as follows: Irredeemable 5-per-cent. bonds held by the school fund, \$380,000; 4-per-cent. State bonds held by the same

fund, \$142,000; 4-per-cent. State bonds held by the University fund, \$49,000; other indebtedness, \$8,887.83.

Valuations.—In 1888 the taxable property in the State was assessed at \$26,738,378.53; in 1889 the assessment was \$26,629,681.23, a decrease of \$108,579.32; and in 1890 it was \$24,663,384.57, a decrease of \$1,966,296.64 from 1889. The rate of State taxation is 90 cents on each \$100.

County Debts.—The total debt of Nevada counties is \$857,278, a decrease of \$33,739 in ten years. Of this total, \$651,840 is a bonded debt and \$205,438 a floating debt. Five of the four-teen counties have no debt.

Education.—The public schools are prosperous. In addition to support received from local taxation, they are entitled to the income from a State school fund, which contains \$972,000 invested in State and United States bonds, besides \$88,113.13 in cash. The success of the State University, which was opened at Reno in September, 1887, has been marked. Only 37 students were enrolled the first year, but the number increased to 115 in 1888, 137 in 1889, and 145 in 1890. The permanent University fund on Dec. 31, 1890, amounted to \$111,025.04, of which \$88,000 is invested in State and United States bonds.

State Prison.—The average number of prisoners in the State Prison during the years 1880 and 1890 was 95, a decrease of 19 from the average of the two years preceding. A part of the prisoners are employed in the manufacture of boots and shoes, but the industry has not proved profitable to the State.

Militia.—At the beginning of the year the total number of officers and men in the State militia was 556, divided into seven companies and one battery. The cost of this organization to the State was \$7,581.88 in 1889, and \$7,684.75 in 1890.

Mining.—The product of precious metals in Nevada for 1890, according to the annual report of Wells, Fargo & Co., was \$3,348,536, of which \$2,693,884 was the value of gold, and \$654,652 of silver.

Political.—On Sept. 5 a Republican State Convention met at Virginia City and nominated the following ticket: For Governor, Ross K. Colcord; for Lieutenant-Governor, J. Poujade; for Secretary of State, O. H. Grey; for Comptroller, R. L. Horton; for Treasurer, John F. Egan; for Attorney-General, J. D. Torreyson; for Superintendent of Public Instruction, Orvis Ring; for Surveyor-General, John E. Jones; for Justice of the Supreme Court, R. R. Bigelow; for Clerk of the Supreme Court, Joseph Josephs; for member of Congress, H. F. Bartine; for Regents of the State University, E. T. George and J. W. Haines. A platform was adopted approving the National Administration, demanding the free coinage of silver, and favoring the Australian ballot system.

The Democratic State Convention met at Reno on Sept. 12 and nominated the following ticket: For Governor, Theodore Winters; for Lieutenant-Governor, R. Sadler; for Secretary of State, John T. Brady; for Comptroller, A. C. May; for Treasurer, N. H. A. Mason; for Surveyor-General, T. K. Stewart; for Superintendent of

Public Instruction, W. G. Hyde; for Attorney-General, W. C. Love; for Justice of the Supreme Court, J. H. McMillan; for Clerk of the Supreme Court, W. W. Booker; for member of Congress, G. W. Cassidy. The platform includes the following:

Of the hundreds of corporations owning mines and mining upon the great Comstock lode but one is a Nevada corporation; the rest are non-resident. A thousand million dollars have been taken out of the mines, yet not \$10,000,000 remain in the State. Every profitable industry is monopolized and plundered until nothing is left to our people but the wretched pittance called the wages of labor. Our population, which was 80,000 in 1864, and which should have been 500,000 by this time, has decreased to 40,000, and our taxable wealth, which should be \$1,000,000, is less than \$20,000,000. Taxes have increased until in many places the property is valueless; immigration has ceased, and the State is being depopulated.

At the November election the entire Republican State ticket was elected, the vote for Governor being: Colcord, 6,601; Winters, 5,791. For member of Congress, Bartine received 6,610 votes; Cassidy, 5,736; and M. E. Ward, the nominee of the Prohibition party, 34. Members of the State Legislature were chosen at the same time, the Republicans electing 53 members and the Democrats 7. The question whether a convention should be called to revise the State Constitution was also voted upon, but the act providing for the submission of this question was subsequently discovered to be fatally defective. It contained no provision authorizing the judges or inspectors of election to count and make returns of the votes cast or authorizing the State canvassing board or any State officer to canvass such votes. Although the votes actually cast showed a majority in favor of the convention, no legal method for ascertaining that fact had been provided, and the election was therefore void.

NEW BRUNSWICK. A general election of members to serve in the Provincial Legislature was held in New Brunswick in January, 1890. The most notable feature of the contest was the election of six opposition members in the city and county of St. John, and the consequent defeat of Hon. D. McLellan, who had held the office of Provincial Secretary for nearly seven years. This necessitated a change in the Provincial Cabinet. Hon. James Mitchell, Surveyor-General, took the office of Provincial Secretary, and his place was filled by Hon. Lemuel J. Tweedie. The latter appointment was made under an arrangement for the reduction of the stumpage dues on lumber cut on Crown lands, from \$1.25 a thousand superficial feet to \$1. This change excited a keen discussion in the Legislature and the public press. A commission was appointed to examine into the condition of the lumber trade, and report on the whole subject of stumpage dues and timber leases. This commission is to report in 1892.

A great part of the session of 1890 was taken up with the investigation of a charge against the leader of the Government, of having corruptly disposed of an important dock contract to John D. Leary, of New York. The charge was completely disproved. It created intense interest all over the province, principally because of the

high standing and exceptional political skill of the gentleman attacked, the Hon. A. G. Blair.

The principal laws passed during the year were:

To authorize the issuing of debentures to pay for the erection of iron or steel highway bridges, such debentures to be redeemable at any time after ten years, and to bear interest at a not greater rate than four per cent.

Respecting practice and procedure in the Supreme Court of Equity. This act deals with the whole subject in equity practice, provides for the care of the estate of infants, the foreclosure of mortgages, the partition of lands, the administration of trusts, the control of the estates of lunatics, the adoption of children, dower, and the management of the property of habitual drunkards. All previous acts in regard to these subjects are repealed, and the practice of the court is simplified and modernized.

To amend the Controverted Elections Act. In the Canadian provinces elections may be set aside by the Supreme Court, where the successful party has used bribery or other unlawful means. The act of 1890 provides that the petitioner in such a proceeding shall, at the time of filing his petition, deposit with the clerk of the court the sum of \$1,000 as security for costs, also that the judge is not bound to unseat the successful candidate, unless in his opinion his election was due to illegal practices. Formerly it was sufficient simply to prove that these had been committed, even to the slightest extent. Now it must be made clear that the majority of the successful candidate was probably obtained by corrupt means, unless it shall be shown that no corrupt means were used by the defeated candidate, when the judge may declare the latter elected, if it shall appear that the defeated candidate was equally guilty with the successful one in the employment of illegal agencies, the petition shall be dismissed.

For the protection of certain animals. This provides a close season for moose, caribou, deer, and red deer, from Jan. 15, to Aug. 31, with a penalty of not less than \$100 and not more than \$200 for each offense; absolutely prohibits the killing of a cow moose under a penalty of \$500; limits the number of animals that one person may kill in any year as follows: One moose, two caribou, three deer, and three red deer; and provides an annual appropriation for the enforcement of the law.

For the registration of dental surgeons. This establishes a dental society, and provides that only dentists who register in the books of the society may practice in the province, an exception being made in the case of registered medical practitioners.

Railways.—The only new line of railway constructed in the province during the year was the St. Francis Railroad, from Edmundston, the junction of the New Brunswick and Temiscouata Railways, up the St. John valley 20 miles. This line will probably be prolonged to Quebec.

The most important event in railway circles in New Brunswick during the year was the acquirement by the Canadian Pacific Railway Company of the New Brunswick Railway. This was originally a narrow-gauge road from Fredericton to Edmundston, built principally by Alexander Gibson, a New Brunswick capitalist, under an act of the local Legislature, giving a bonus of 10,000 acres of land per mile. In addition to its line in the province, the company built an important feeder into Aroostook County, Me. In 1879 the New Brunswick Railway was purchased by a syndicate, at the head of which were Sir George Stephen and Sir Donald Smith, afterward the head of the Canadian Pacific syndicate. The new owners of the New Brunswick line proceeded to acquire all connecting lines, and soon ob-

tained control of all the lines in western New Brunswick, except one. This gave them 443 miles of road, with deep-water termini at St. John and Halifax, and enabled them to control the traffic of more than half of New Brunswick and a considerable part of northern Maine. On July 1, 1890, this system passed into the hands of the Canadian Pacific Railway Company, which had lately completed a line across the State of Maine, connecting with the New Brunswick Railway at Vanceboro, and thereby became possessed of a line of its own from the Atlantic to the Pacific ocean. The Canadian Pacific Railway Company has traffic arrangements over the Intercolonial railway between St. John and Halifax, and trains leave the latter city daily for Vancouver on the Pacific coast, under the same management, the whole distance of 3,664 miles.

Agriculture.—The season of 1890 was the most unfavorable for agricultural pursuits experienced in many years. The spring was late, cold, and wet; the summer in part very dry and in part very wet; the harvest season an almost constant succession of rainy days. Grain sprouted in the fields after being cut, fruit was almost a failure, and thousands of tons of hay were destroyed by floods that covered the low lands.

A strong effort was made by the Provincial Government during the year to foster an interest in dairying, by the engagement of agricultural lecturers, and the granting of bonuses to butter and cheese factories.

International Exhibition.—An International Exhibition was held at St. John in September, and a fine display was made by some of the West Indies, notably Trinidad. The exhibition was very successful. It was managed by a private company, which has undertaken to hold annual exhibitions of the same class.

Although the year was, in a business point of view, not favorable to New Brunswick, no important failures occurred, and the general condition of business continued sound. The year was remarkably free from serious crimes.

NEWFOUNDLAND, a British colony in North America, comprising an island of that name and the coast of Labrador. (See article LABRADOR in the "Annual Cyclopædia for 1888.") The area of the island is about 40,200 square miles. Capital, St. John's.

Legislation.—During the period from 1887 to 1890, inclusive, several important acts were passed by the Legislature. The Election act of 1889, as finally amended in the session of 1890, makes the following provisions for the election of members of the House of Assembly: All voting at elections shall be conducted by ballot. Every male British subject, being of the full age of twenty-one years, who for two years preceding the day of election has been a resident in the colony, and who has never been convicted of any infamous crime, shall be competent to vote for the election of members of the Legislative Assembly in and for the electoral district within which he has resided for at least one year immediately preceding the election. The qualifications of persons to be elected as members of the House of Assembly shall be: A net annual income of \$480, or the possession of property exceeding \$2,400, clear of all incumbrances, and a residence of two years within the island. Every

candidate shall be a male British subject of the full age of twenty-one years. The act makes it penal for candidates to provide drink or refreshments for electors between nomination and polling day. The use of party colors, ribbons, or labels is prohibited during election day, or within eight days before; also the sale of strong drinks on polling day. It provides severe punishment for bribery (to both briber and receiver), for intimidation (spiritual or temporal), and for abduction. It forbids the hiring of any vehicle or mode of conveyance, or payment of traveling expenses, for election purposes. Candidates are to furnish a detailed account of their election expenses to the Colonial Secretary. Provision is made for the trial of controverted elections by a judge of the Supreme Court, instead of by a committee of the House of Assembly as formerly.

The Bait act, which came into operation Jan. 2, 1888, provides that no person shall take bait fishes, for sale or exportation, without obtaining a special license from the Receiver-General. The penalty for the violation of this act is, for the first offense, seizure of vessel and gear, and fine of not over \$1,000, or imprisonment not exceeding six months; for any subsequent offense, imprisonment not exceeding one year, in addition to seizure of vessel.

The Currency act of 1887 renders it imperative that all accounts be kept, and all moneys paid and received in dollars and cents; and provides that silver shall be a legal tender up to \$10. It legalizes as current coin of the colony British and foreign coins, viz., the British sovereign and all its multiples, which shall pass current for \$4.80; the gold eagle of the United States and all its multiples, which shall pass current for \$9.85; British silver coins after the rate fixed for British gold coins.

The Seal Fishery act of 1887 provides that no seals shall be killed before March 12 in any year, or after April 20, under a penalty of \$4 for every seal so killed, and that no steamer shall go out on a second or subsequent trip after April 1, in any year, under a penalty of double the value of the seals so brought in; and the master of any steamer found guilty of a breach of this provision shall be debarred from command of any sealing vessel for two years after conviction.

The Preservation of Sheep act of 1887 provides that, on a requisition signed by one third of the voters in any district, the keeping of dogs within such district shall be prohibited.

The Encouragement of Ship Building act of 1889 provides a bounty of \$4 a ton on all vessels newly and entirely built and equipped in the colony. It also authorizes the Governor in Council to employ a Lloyd's surveyor.

The Agricultural act of 1889 grants \$4,000 a year out of the general revenue for the purpose of agriculture, and authorizes the appointment of a Board of Commissioners of Agriculture to form societies, to obtain improved breeds of animals, to establish a model farm, and to hold an agricultural exhibition annually.

The Local Option Amendment act of 1889 provides that if two thirds of the electors in a district vote in favor of local option, the sale of intoxicating liquors shall be prohibited within the limits of that district.

The Fisheries Commission act of 1889 appoints



a Board of Fishery Commissioners to superintend all matters connected with the preservation and development of the fisheries, and the fishery interests of the colony.

The Prevention of Cruelty to Animals act of 1889 provides that any one convicted of ill-treating a domestic animal shall pay a penalty not exceeding \$25.

During the session of 1890 acts were passed to provide for the local government of towns and settlements, for the registration of births, marriages, and deaths, for the encouragement of paper-pulp factories, also to encourage the growth of flax and hemp, and the manufacture of fish glue, isinglass, and gelatin.

Education.—Education continues to be conducted on the separate or denominational principle. But of the grant from the public funds for educational purposes, each religious denomination receives a share in proportion to its numbers. There are three superintendents of education—one for Church of England schools, one for Roman Catholic schools, and one for Methodist schools. The Education act of 1887 consolidated previous acts, increased and readjusted allocations according to relative population, and provided an annual allowance of \$480 for the institution of a scholarship in the London University, to be open to competition from the colony. St. John's is made a center of the London University, so that pupils can there prepare for and pass the matriculation examinations.

Pupil teachers are trained in the academies. In 1890 there were 543 elementary schools, of which 197 belonged to the Church of England, 207 to the Roman Catholic Church, and 135 to the Methodist Church. The total number of pupils in these schools was 31,422; of these pupils, 11,783 belonged to the Church of England, 11,914 to the Roman Catholic Church, 7,640 to the Methodist Church, and 83 to the Congregational Church. The total number of pupils in the colleges, academies, and grammar schools was 969. The total number of pupils in colleges, academies, and common schools was 32,391; or 1 in 6.14 of the population.

The advance in education may be seen by comparing with the foregoing the returns in 1881. At that date there were 418 elementary schools, having 24,292 pupils; in the colleges, academies, and grammar schools there were 64 pupils; and the total number of pupils was 24,971, or about 1 in 7 of the population. There has also been a marked advance in the quality of the education, in the qualifications of the teachers, and in the character and equipment of school buildings. The higher education is also receiving more attention in recent years. Separate boards of education in the districts have charge of the schools. The annual grant by the Legislature for educational purposes is \$118,795.

Railways.—The railway from St. John's to Harbor Grace was opened in 1884. Its length is 86 miles. A new branch railway from Whitbourne Junction to Placentia, 26 miles, was opened in 1888. In 1889 and 1890 acts were passed to provide for the construction of a railway toward Hall's Bay, with a branch to Brigus or Clarke's Beach, authorizing a loan of \$4,500,000 at 3½ per cent., and providing for the acceptance of a tender for construction. The tender

of Messrs. Reid & Middleton was accepted, and the work was begun in October, 1890.

The Fisheries.—The staple industry of Newfoundland, on which the great bulk of the population are dependent, is fishing. The cod fishery is by far the most important. It is carried on around the shores of the island, in Labrador, and on the Banks. The following figures show the export of codfish, together with the value in the years named:

YEAR.	Quintals.	Value.
1887	1,080,024	\$4,255,588
1888	1,175,720	4,938,018
1889	1,076,507	4,541,196

The Bank fishery has increased rapidly within the past four years, and now employs about 450 vessels and more than 4,000 men. The shore fishery has declined.

In 1887 the number of seals taken was 230,255; in 1888, it was 286,464; in 1889, it was 207,084.

The export of lobsters was as follows: In 1887, 2,097,092 pounds; in 1888, 3,360,672 pounds; in 1889, 4,003,561 pounds. The number of lobster-canning factories in 1890 was 200.

The annual value of the herring and salmon fisheries is, respectively, about \$350,000 and \$100,000. The total value of the fisheries in 1889 was \$6,371,304. The total number of persons engaged in fishing and curing fish in 1890 was 60,000, the number of able-bodied fishermen 37,000.

Agriculture.—According to the last census (1884), there are 46,996 acres of land under cultivation. Number of cows, 19,886; of horses, 5,536; of sheep, 40,326; of swine, 21,535. Number of bushels of oats raised, 5,393; barrels of potatoes, 362,649; of turnips, 24,006; butter, pounds, 247,664; tons of hay cut, 28,312 in the year 1884. A successful agricultural exhibition was held in St. John's in October, 1890.

Trade.—The trade for three years has been as follows:

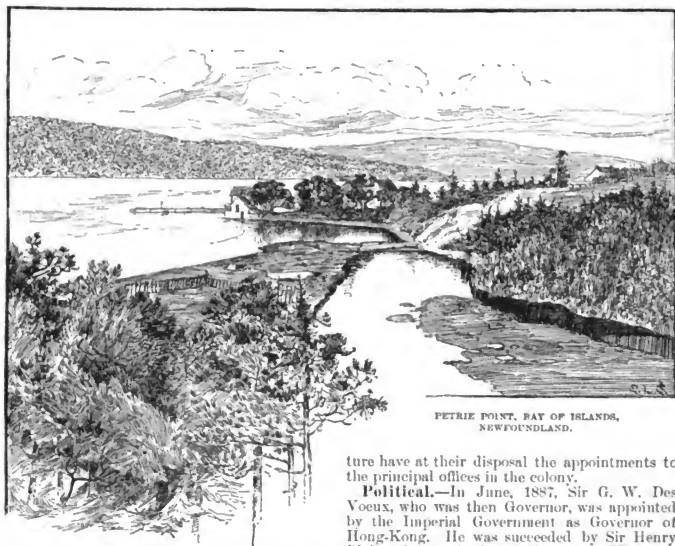
YEAR.	Imports.	Exports.
1887	\$5,397,408	\$5,176,730
1888	7,420,400	6,582,018
1889	6,607,065	6,122,986

Finances.—The revenue in three years was: In 1887, \$1,272,000; in 1888, \$1,370,029; in 1889, \$1,362,893. The public debt in the same years was: In 1887, \$3,005,040; in 1888, \$3,335,589; in 1889, \$4,133,202. The amount of debt per head of the entire population is \$19.69. The interest on the public debt in 1890 was \$202,914.

Population.—The census of 1884 showed that the population of Newfoundland and Labrador was 197,589. Of these, 99,344 were males and 98,245 females. Of the entire number, 69,000 belonged to the Church of England, 75,254 to the Roman Catholic Church, 48,767 to the Methodist Church, 1,495 to the Presbyterian Church, and 1,470 to the other denominations.

In 1874 the population was 161,374. The increase in the decade 1874-'84 was 36,269, or 22.43 per cent.

Shipping.—The registered shipping in 1889 was: Vessels, 2,172; tonnage, 43,932. The sub-



PETRIE POINT, BAY OF ISLANDS,
NEWFOUNDLAND.

sidies for steam communication, ocean and coast-wise in 1890 amounted to \$157,055.

Industries.—In 1890 there were in the island 55 saw mills, 4 tinneries, 6 iron foundries, 7 furniture factories, and 95 other factories.

Fish Culture.—The artificial propagation of codfish and lobsters, on a large scale, was carried on under Adolph Nielsen, Superintendent of Fisheries, in 1890. In the hatchery at Dildo Island, Trinity Bay, 17,000,000 cod were hatched and planted in the waters of the bay, and 15,000,000 lobsters. In addition 432 floating incubators were distributed at 14 different stations throughout the island; and in these 390,934,500 lobsters were hatched and planted. The whole number of lobster ova hatched in the summer of 1890 was 406,005,300. This is by far the greatest success ever reached in the artificial propagation of lobsters.

Newspapers.—In 1890 three daily papers were published in St. John's, two bi-weekly and one weekly; in Harbor Grace, one bi-weekly; and in Trinity and Twillingate, one weekly.

Government.—In 1890 there were 18 electoral districts, sending 36 members to the House of Assembly. They are elected every four years by the people, manhood suffrage being now established. The Legislative Council consists of 15 members, who are nominated by the Governor in Council, and hold office for life. The members of both branches of the Legislature are paid. The country has enjoyed "responsible government" since 1855. By its provisions the party that are sustained by a majority in the Legisla-

ture have at their disposal the appointments to the principal offices in the colony.

Political.—In June, 1887, Sir G. W. Des Voeux, who was then Governor, was appointed by the Imperial Government as Governor of Hong-Kong. He was succeeded by Sir Henry Blake, who remained until November, 1888, when he was appointed Governor of Jamaica. His successor was Sir Terence N. O'Brien, the present Governor.

In November, 1889, a general election took place. For the first time the voting was according to manhood suffrage and by ballot. The result was that the party led by Sir Robert Thorburn, who had been Premier since 1885, was defeated, and Sir William Whiteway was called on, as Premier, to form a government. Fresh troubles arose in 1888 in connection with the "French shore question," and are still unsettled. By certain ancient treaties the French enjoy rights of fishing and drying fish on the western and northern coasts of the island. For a long time a difference of opinion existed between the two nations as to the proper interpretation of those treaties. The French have long contended that the treaties gave them an *exclusive* right to the fisheries along this portion of the coast. British statesmen have always refused to admit such a claim, and have contended that British subjects have a *concurrent* right of fishing there, provided they did not "interrupt" the fishing operations of the French. All attempts to settle this difficulty and arrive at a common understanding have hitherto failed. The colonists bitterly complain of the injustice and hardships they have long suffered through the persistent claims of the French, which have practically excluded them from the better half of the island. At present only 8 or 10 French vessels visit that extent of coast. Vexatious quarrels occur constantly and endanger the peace of the two

nations. Matters have lately reached a crisis. The new industry of canning lobsters was introduced on the "French shore" by British subjects, who erected more than 30 factories. The French resented this and protested against it, and then proceeded to erect factories of their own. They also set up an exclusive claim to the lobster fishery, and endeavored to remove the factories of the British from such places as they wish to occupy. The colonists contend that the treaties give the French no right to occupy the shore with such permanent erections as lobster factories, and in this view they are sustained by the British Government. Matters looked so serious in 1880 that the governments of France and England entered into a temporary *modus vivendi* in the early part of 1890 with the view of settling the whole fishery disputes by a treaty. The terms of the *modus vivendi* gave great offense to the colonists. Deputies were sent to England to represent their grievances, both by the local government and by the people assembled in mass meetings. Some of these deputies also visited Canada to awaken sympathy and obtain support. The British Government is moving in the matter, and negotiations are in progress in Paris for the purpose of effecting a settlement of the question.

The shores of Newfoundland are now of small value to France. The fisheries have declined, and last year only 7 French fishing vessels visited the coast, which is about 450 miles in extent. The main fishing operations of the French are on the banks, and are carried on from the Isles of St. Pierre and Miquelon, at the mouth of Fortune Bay, on the south coast, which were ceded to France by the treaty of Paris, in 1763. A fleet of more than 200 sail of French fishing vessels, from 100 to 400 tons, arrives here every spring from France, and makes it headquarters for the fishing season. The following figures show the quantities and value of codfish shipped from St. Pierre from 1879 to 1888, inclusive:

YEAR.	Quintals.	Value.
1879	298,326	\$1,372,008
1880	479,725	1,480,716
1881	374,017	1,142,719
1882	411,966	1,981,759
1883	530,045	2,820,185
1884	632,005	2,156,568
1885	820,350	2,781,744
1886	908,300	2,176,425
1887	754,770	2,507,821
1888	594,729	2,081,248

The following figures show the distribution of the population along the shores of the island: South coast, from Cape Ray to Cape Race, 33,752, of whom 10,455 are engaged in catching and curing fish; east and northeast coast, from Cape Race to Cape John, 147,399, of whom 43,950 are engaged in catching and curing fish; on that part of the coast where the French have treaty rights of fishing, from Cape Ray to Cape John, 11,973, of whom 3,217 are engaged in the fisheries; Labrador, 4,211.

NEW HAMPSHIRE, a New England State, one of the original thirteen, ratified the Constitution June 21, 1788; area, 9,305 square miles. The population, according to each decennial census, was 141,885 in 1790; 183,858 in 1800; 214,460 in 1810; 244,022 in 1820; 269,328 in 1830; 284,574

in 1840; 317,976 in 1850; 326,073 in 1860; 318,500 in 1870; 346,991 in 1880; and 376,530 in 1890. Capital, Concord.

Government.—The following were the State officers during the year: Governor, David H. Goodell, Republican (during the illness of Gov. Goodell, from April 22 to July 1, David A. Taggart, President of the State Senate, was the acting Governor); Secretary of State, A. B. Thompson, who died on Sept. 13 (for the remainder of the year, Deputy Secretary of State C. B. Randlett was the acting Secretary); Treasurer, Solon A. Carter; Attorney-General, Daniel Barnard; Superintendent of Public Instruction, James W. Patterson, Insurance Commissioner, Henry H. Huse, who died on Sept. 7 and was succeeded by John C. Linehan; Railroad Commissioners, Henry M. Putney, Benjamin F. Prescott, J. M. Mitchell; Chief Justice of the Supreme Court, Charles Doe; Associate Justices, Isaac W. Smith, William H. H. Allen, Lewis W. Clark, Isaac N. Blodgett, Alonzo P. Carpenter, and George A. Bingham.

Illness of the Governor.—In the early part of the year Gov. Goodell delivered many addresses in the towns and cities of the State to supplement his proclamation of last year regarding the illegal sale of liquor and to arouse public sentiment against violations of the prohibitory law. In this work he so far overtaxed his strength as to bring upon himself, early in March, a serious and protracted illness. Early in April the public business had suffered so much from his absence that the Attorney-General began a suit in the State Supreme Court against David A. Taggart, President of the State Senate, to obtain a legal decision whether that official could legally perform the duties of the Governor during the disability of the latter. Article XLIX of the State Constitution provides that "whenever the chair of the Governor shall become vacant by reason of his death, absence from the State, or otherwise," the President of the Senate shall become acting Governor. The court, by a decision rendered on April 18, held that under this article the President of the Senate was authorized to act as Governor, under the circumstances shown to exist. Mr. Taggart accordingly, on April 22, assumed the duties of the office, and he continued to discharge them until July 1, when Gov. Goodell had been restored to health.

Population.—The following table shows the population of the State by counties, as determined by the national census of this year, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Belknap	17,948	20,821	2,873
Carroll	18,224	18,124	* 100
Cheshire	28,734	29,879	1,145
Cook	18,580	23,211	4,631
Grafton	28,788	37,217	8,429
Hillsborough	75,624	86,277	10,653
Merrimack	46,300	49,435	3,135
Rockingham	49,064	49,650	586
Strafford	85,558	88,442	2,884
Sullivan	18,161	17,304	* 857
Total	246,991	376,530	129,539

* Decrease.

The cities and leading towns show the following population in 1890: Cities—Manchester, 44,-

126, increase in ten years, 11,496; Nashua, 19,311, increase, 5,914; Concord, 17,004, increase, 3,161; Dover, 12,790, increase, 1,103; Portsmouth, 9,827, increase, 137; Keene, 7,446, increase, 662. Towns—Rochester, 7,396, increase, 1,612; Somersworth, 6,207, increase, 621; Lacoia, 6,143, increase, 2,353; Claremont, 5,565, increase, 861. (See article on "Keene," under CITIES, AMERICAN.)

Finances.—The following figures show the receipts and expenditures at the State treasury for the past fiscal year, and the condition of the State debt:

Cash on hand, June 1, 1889.....	\$318,943 68	
Receipts during the year.....	1,363,426 39	
		\$1,679,270 07
Disbursements during the year.....	\$1,477,298 76	
Cash on hand, June 1, 1890.....	202,061 81	
		\$1,679,270 07
Liabilities, June 1, 1889.....	\$2,958,553 23	
Assets, June 1, 1889.....	821,234 06	
Net indebtedness.....		\$2,682,316 17
Liabilities, June 1, 1890.....	\$2,691,019 45	
Assets, June 1, 1890.....	209,566 11	
Net indebtedness.....		\$2,481,458 34
Reduction of debt during the year.....		\$150,862 83

On July 1, State bonds to the amount of \$100,000 fell due and were retired, and on Jan. 1, 1891, other bonds amounting to \$14,000 were paid. During the fiscal years 1891-'92 and 1892-'93 bonds to the amount of \$582,100 will mature. It was expected that an annual State tax of \$500,000 for 1890 and 1891, levied by the Legislature of 1889, would provide the means to redeem these bonds, but the appropriations by the Legislature of 1889 were so much in excess of the average for a series of years that such expectation will not be realized, unless the tax be continued for the next two years.

The actual expenses of the State government, including interest on the debt, for the year ending May 31, were \$488,629.24, while the actual revenue for the same time was \$639,492.97. The difference between these figures and the total expenses and receipts above given represents the amount of tax on corporations, which the State Treasurer collects and turns over to the towns.

County Debts.—The total debt of New Hampshire counties is \$495,175, a decrease of \$283,859 in ten years, \$315,500 being bonded and \$179,675 floating. Every county is in debt.

Education.—The following public-school statistics cover the school year ending in 1890: Number of public schools, 2,302; increase in one year, 109; average length of school in weeks, 23.55; increase, 0.77; number of scholars enrolled, 59,813; decrease, 311; average attendance, 41,526; decrease, 1,958; number attending private schools, 7,759; number not attending any school, 1,633; male teachers, 306; decrease, 6; female teachers, 2,808; increase, 81; monthly wages, male teachers, \$45.88; increase, \$2.51; monthly wages, female teachers, \$25.64; increase, 22 cents; number of school-houses, 2,078; built during the year, 40; estimated value of school property, \$2,578,257.97; increase, \$197,652.46.

The amount of money raised for schools by town taxes during the year was \$515,141.63, and by district taxes \$144,434.19. The Literary fund of the State amounts to \$53,665.69; local funds,

\$14,967.84; railroad tax, \$4,962.01; dog tax, \$6,246.65; amount contributed in board, fuel, and money, \$11,848.84; entire amount of revenue, \$751,266.85, an increase of \$38,836.27 over the previous year.

The State Normal School, which has been established for twenty years, is prosperous. The number of pupils in the normal department during the last school year was 102, the largest attendance for sixteen years. New buildings are in process of erection, including a brick school-house and a boarding hall, which will cost about \$70,000.

Charities.—The State Insane Asylum at Concord, established in 1842, has cared for more than 5,000 patients during its existence. Its accommodations have been gradually enlarged until 350 patients can be cared for at one time. The legislative act of 1889 has caused the transfer of many cases from the county almshouse to the asylum, and the limit to its capacity is almost reached.

The Legislature of 1889 also passed an act to establish a home for disabled soldiers and sailors of the State, and made an appropriation of \$30,000 for its construction and \$10,000 for its maintenance for the two years immediately following the passage of the act. A location for the home was offered free by a citizen, and accepted by the managers. It consists of a farm of about 40 acres in Tilton. On this site a commodious brick building has been erected during the past season, and was dedicated on Dec. 3. The home, which will accommodate about 75 inmates, has 30 members.

Prisons.—At the close of the year there were 107 convicts in the State Prison, about half the number that entered the building at the time of its completion twelve years ago. At the Industrial School there were 98 boys and 17 girls.

Militia.—The State militia, at the close of the year, consisted of 21 companies of infantry, 1 troop of cavalry, and 1 battery, with a total of 120 officers and 1,039 enlisted men. It is well equipped and organized. An annual encampment is held.

Savings Banks.—The aggregate of deposits in the 72 savings banks of the State on Sept. 30 was \$65,727,019.04, an increase of \$8,426,428.56 in one year. This is the largest increase ever made by the banks in one year. Their guarantee fund amounts to \$3,791,339.34, their surplus to \$2,379,746.30, and their miscellaneous debts to \$18,386.84, making their total liabilities \$71,916,491.52. Their investments outside of New England amount to \$46,720,549.78, of which \$25,855,934.65 is in Western loans, and \$20,864,595.13 in United States, State, county, city, town, and other bonds, and in railroad, bank, manufacturing, and other stocks. Their New Hampshire investments amount to \$20,172,027.30, and their investments in New England outside of New Hampshire to \$1,826,186.41. The number of depositors was 159,782, giving an average of \$411.35 to each. The rate of taxation of savings deposits is greater than in any other State.

Railroads.—Under the compromise act of 1889, which ended the railroad war, unions have been effected by which what were chartered as 42 distinct roads have been consolidated into 5 systems, as follow: Grand Trunk system, 1 road,

Atlantic and St. Lawrence, 52 miles; Connecticut river system, 2 roads, Ashuelot and Sullivan County, 49 miles; Fitchburg system, 3 roads, Cheshire, Monadnock, and Peterborough and Shirley, 67 miles; Concord and Montreal system, 14 roads, Concord, Portsmouth, North Weare, Acton, Suncook Valley, Suncook Valley extension, Old Boston, Concord and Montreal, Wing Road Branch, Pemigewasset Valley, Whitefield and Jefferson, Profile and Franconia, Lake Shore, Tilton and Belmont, Tilton and Franklin, 370.5 miles; Boston and Maine system, 21 roads, Boston and Maine, Eastern New Hampshire, Great Falls and Conway, Portsmouth and Dover, West Amesbury, Worcester and Nashua, Manchester and Lawrence, Dover and Winnisquam, Portland and Rochester, Peterborough, Wilton, Wolfeborough, Northern, Bristol Branch, Concord and Claremont, Hillsborough Branch, Peterborough and Hillsborough, Manchester and Keene, Nashua and Lowell, Upper Coos, and Portland and Ogdensburg, 589 miles. As will be seen, 960 miles of road, or nearly nine tenths of the entire mileage of the State, is in the hands of the Boston and Maine and Concord and Montreal corporations.

The net earnings of New Hampshire railroads were never so large as this year, and the value of their stock was never so great. During the period when railroad properties elsewhere have been shrinking in value, New Hampshire railroad shares have constantly appreciated.

Insurance.—Fire insurance appears to rest on a more satisfactory basis than at any time during the past five years. For more than twenty years preceding 1885 New Hampshire had depended almost wholly on companies from outside the State. The Legislature of that year enacted a stringent law, popularly known as the "valued policy law," for regulating the dealings of fire-insurance companies. Immediately after the law became effective (Aug. 29), the 58 foreign companies retired from the State, leaving only the 17 town mutual and 3 State mutual companies and 1 strong stock company. Two stock companies and 11 cash mutual companies began business the same year. During 1886 10 additional companies were organized and begun operations. On Jan. 1, 1889, there were 12 stock and 38 mutual companies doing business in the State. During this year the foreign companies began to return, until, on Dec. 1, 1890, 37 of the 58 companies had resumed business.

Abandoned Farms.—Early in the year Commissioner of Agriculture N. J. Bachelder published a pamphlet containing, among other statistics regarding the State, a descriptive list of abandoned farms, which could be purchased at low prices. The list included 1,442 farms having tenantable buildings upon them, located among the counties as follow: Rockingham, 113; Strafford, 52; Belknap, 54; Carroll, 124; Merrimack, 215; Hillsborough, 228; Cheshire, 211; Sullivan, 160; Grafton, 265; Coos, 20.

As a result of this publication and other efforts of the commissioner, 350 of such farms were repopulated, mainly by Americans, before the close of the year.

The Stark Statue.—The Legislature of 1889, at the solicitation of public-spirited citizens, passed an act appropriating \$12,000 for the

erection in the State House yard of a statue of Gen. John Stark, of Revolutionary fame. Pursuant to this act, the Governor and Council caused a statue to be erected, which was unveiled on Oct. 23, Hon. James W. Patterson delivering an oration.

Political.—The political contest of this year was opened by the Democrats, who in State Convention at Concord, on Sept. 2, nominated Charles H. Amsden, the candidate of the party in the canvass of 1888, for the office of Governor. The platform contains the following declarations on local issues:

We arraign the Republican party of this State for its extravagant expenditures. Under its long management the expenses of every department have yearly grown heavier until the annual State and local taxes amount to nearly ten dollars for every man, woman, and child. Meanwhile the value of taxable property in agricultural towns has been gradually decreasing. We arraign it for its conduct in dealing with the question of temperance, and the liquor laws of the State. It has never made an honest effort to impartially enforce the prohibitory law; but has used it as a political bludgeon to compel assessments from liquor dealers with which to purchase "floaters in blocks of five."

We demand the repeal of the so-called "nuisance act," and the enactment of laws which will restrain, regulate, and control the sale of intoxicating liquors in the interest of temperance and morality.

We demand the passage of an election law modeled on the Australian system, which will insure an absolutely free and secret ballot.

We demand the passage of laws which will protect the lives, the safety, and the health of operatives in our mills and factories.

We demand a reform of the laws of the State.

The Prohibition State Convention met at Concord on Sept. 8, and nominated Josiah M. Fletcher for Governor. The following was among the resolutions adopted:

The free manufacture of intoxicating beverages in a Prohibition State is a fraud, and that honest prohibition must strike at the root of the evil, the manufacture of liquors; otherwise prohibition of its sale must be attended with serious difficulties; and we therefore demand the unconditional prohibition by statute law of the manufacture of intoxicating liquors to be used as a beverage within this State; we also demand the strict and impartial enforcement of all prohibitory laws.

On Sept. 17 the Republican State Convention was held at Concord. It nominated Hiram A. Tuttle for Governor on the first ballot. The platform includes the following declarations:

We advocate the most careful preservation and the wisest utilization of our forests and the waters of our lakes and streams, and the promotion of the culture of food fishes. The so-called abandoned farms of the State may be readily converted into happy homes and health-giving summer resorts for the sons and daughters of New Hampshire or their descendants who reside and have obtained wealth in other States. The success which has attended the efforts of the present State administration to draw attention to these farms and to secure their profitable and beneficial occupation should be recognized, and these efforts should be continued by our people.

The Republican party recognizes in the dram shop its most powerful opponent and the most dangerous foe to the community, and will continue its efforts to suppress it, consenting only to such changes in the existing law as will conduce to that end and are approved by the honest and practical temperance men and women of the State.

The tax laws which levy upon monied corporations, other than manufacturing, the expenses of the State and a large share of the county expenses, leaving little but local expenditures to be provided for by local taxation; those exempting from attachment family homesteads and the tools of mechanics, and which protect the earnings of wage workers from the grasp of the sheriff except when debts are for necessities, and those establishing working men's liens, are all in line with Republican doctrine; but many of these statutes were intended to apply to different conditions from those that exist now, and they should be amended so as to give working people a larger lien for their wages upon property which their labor has created, make them more secure in the enjoyment of their earnings, and remedy as far as possible the evils of double and other unequal taxation and any inequitable distribution of the State tax.

At the November election Tuttle received 42,479 votes; Amsden, 42,386; and Fletcher, 1,363. No candidate having received a majority of the votes cast there was no election by the people, and the choice of Governor devolved upon the Legislature of 1891, whose members were chosen at the same election. But the political complexion of this Legislature was a matter of grave doubt, certain persons having been chosen to the Lower House whose right to seats therein was a subject of dispute between the two political parties. The questions at issue are considered below. In each of the two congressional districts the Democratic candidate was elected by a narrow majority, a gain of one seat.

Election Dispute.—At the November election the vote in several senatorial districts was so close that the membership of the State Senate remained in doubt. The State Constitution requires the Governor and Council to open the returns sent to the Secretary of State by the town clerks, and to certify to the result in each senatorial district. In performing this duty, the Governor and Council declared that 13 Republican and 9 Democratic Senators had been elected, and that in two districts there was no choice by the people. For one of the two districts the correctness of this declaration was questioned. The result in this district depended upon the number of Prohibition votes that should be returned as cast in the town of Rochester. As announced by the moderator at the close of the election, the total Prohibition vote in the town was 34; but it was afterward discovered by the town clerk that 44 Prohibition votes had actually been cast. The latter, in making his return to the Governor and Council, as required by law, stated the facts and certified that 44 votes were actually cast. The 44 votes were counted, and the total vote for the district was found to be as follows: Felker, Democrat, 2,100; Parsley, Republican, 2,031; Bean, Prohibition, 68; scattering, 9. As neither candidate had a majority of all the votes cast, the Governor and Council declared that there was no choice by the people. But if the vote of Rochester had been counted as announced by the moderator, the total vote for Bean would have been 58 instead of 68, and Felker, the Democratic candidate, having a clear majority of the total vote, would be elected. The State Constitution provides that the moderator shall announce the result of the election, it being the sole duty of the clerk to record the proceedings of the town meeting at which the election is held. In order to determine the question whether,

under the Constitution, the town clerk had any authority to make a return of the vote differing in any way from the announcement of the moderator, a petition was filed on Dec. 20, in the State Supreme Court, in which the Democratic candidate asked for a writ of mandamus to compel the town clerk to amend his return so as to correspond with the announced result. A hearing before the Court was held, and early in January, 1891, a decision was rendered in favor of the plaintiff, to the effect that the clerk must certify only to the result announced by the moderator. The returns were accordingly amended, and Felker was declared elected. The Senate of 1891, when it assembled, therefore, consisted of 13 Republicans and 10 Democrats, there being no choice by the people in one district.

The membership of the Lower House depended upon the interpretation and effect of certain provisions of the State Constitution. That instrument establishes no fixed number of Representatives, but provides in Article IX that—

Every town, or place entitled to town privileges, and wards of cities having 600 inhabitants by the last general census of this State, taken by authority of the United States or of this State, may elect one Representative; if 1,500 such inhabitants, may elect two Representatives; and so proceeding in that proportion, making 1,200 such inhabitants the mean increasing number for any additional Representative.

Prior to the amendments of 1889 it was also provided by Article X that towns, places, and wards of cities having fewer than 600 such inhabitants shall be classed or grouped together by the General Court into districts having at least 600 inhabitants, for the purpose of sending a Representative. In Article XI it was provided that when any town, place, or ward, having fewer than 600 inhabitants, should be so situated as to render the classing or grouping of it with another town, place, or ward very inconvenient, the General Court might provide by law that such town should send a Representative to the Lower House such proportionate part of the time as the number of its inhabitants bore to 600. Under Article IX, every town, place, or ward having 600 inhabitants or more was absolutely entitled to send one or more Representatives, according to the population, while under Articles XI and XII action by the General Court was first necessary either in classing the towns or in determining in what years the small towns not classed should elect Representatives. The Lower House had, therefore, three kinds of members—those from towns, places, and wards having more than 600 inhabitants, those from classed towns under Article X, and those from towns electing only a part of the time or prorated under Article XI. Early in 1889 an amendment to the Constitution, proposed by the Constitutional Convention of that year, was adopted by the people, which abolished Article X and provided that towns, places, or wards formerly classed together under Article X should each come under the provisions of Article XI and elect a proportionate part of the time. It then became the duty of the Legislature, which assembled in June, 1889, to fix the years in which each town formerly classed should elect a Representative. This it failed to do, and at the November election each of these towns proceeded to elect a Representative, 11 Repub-

licans and 21 Democrats being chosen. The right of these members to seats in the House was held to be doubtful.

Article IX of the Constitution, above quoted, bases the representation upon the population, "by the last general census of the State, taken by the authority of the United States or of this State." Prior to the November election the national Census Bureau had published unofficial figures giving approximately the population for 1890 according to the census count, and upon the basis of these figures all the places that had increased in population since 1880 sufficiently to entitle them under Article IX to one or more additional Representatives, elected such Representatives (who were designated as "if entitled" members) in addition to the regularly entitled members. The "if entitled" members so elected numbered 40, of whom 27 were Republicans and 13 Democrats. The question arose whether, at the date of the election, the census of 1890 could be considered as "taken" within the meaning of that word as used in Article IX and could be adopted as a basis for representation, there having been no announcement of the final official figures from the census office until after that date. The Republican claim was that the census was taken as of June 1, and any delay in announcing the result should not affect the rights of the towns. The Democrats claimed that the census could not be made available until the result was officially promulgated, and that in any event the precedent of 1881 should be followed, wherein the Clerk of the House omitted from the roll the "if entitled" members under the census of 1880, and left it to the House to admit them later by resolution.

While, therefore, the eligibility of members from towns formerly classed and of "if entitled" members—was doubtful, there was a large class of members, namely, those elected from the towns on the basis of the census of 1880, and from the prorated towns authorized to elect in 1890—whose right to seats was clearly established. Of these regularly elected members, the Republicans claimed 153 and conceded to the Democrats 151, while the Democrats figured a small majority for themselves, the vote in several towns being close. If the members from the towns formerly classed could be legally excluded from the House, while the "if entitled" members were placed upon the roll with those regularly entitled, the Republicans would have an undisputed majority, enabling them to organize the House and elect the Republican candidate for Governor as well as a United States Senator. If, on the other hand, the members from the towns formerly classed should be added to the roll and the "if entitled" members excluded, the Democrats would have a clear majority, would organize the House, elect the Democratic candidate for Governor, and possibly name the United States Senator. Should both sets of members be added to the roll, the Republicans would have a slight majority. The New Hampshire law provides that the clerk of the preceding House of Representatives shall make up, according to the Constitution and the law, the roll of members-elect of the new House. It therefore devolved upon the clerk, in this case, virtually to decide what should be the political complexion of the House and indi-

rectly who should be Governor and who United States Senator. Another complication now arose from the fact that the clerk of the House at the session of 1889 had removed from the State and probably vacated his office thereby. There was, also, some doubt whether the assistant clerk had authority to make up the roll. For this and other reasons Gov. Goodell was induced to issue a proclamation on Nov. 22, calling together the Legislature of 1889 in special session on Dec. 2. At this session the resignation of the former clerk was received, and Stephen S. Jewett, the assistant clerk, was elected to fill the vacancy. He was authorized to make up the roll of the next House, but no directions were given him regarding this duty. Several minor acts were passed, and the session adjourned on Dec. 5.

As Mr. Jewett was a Republican, elected by the Republican members of the House, it was expected that, in making up the roll, he would decide doubtful points of law in favor of his own party and give the Republicans a majority of the members. Late in November the leading Democrats of the State had obtained a written opinion from two prominent Boston lawyers, which denied the right of the clerk under the law to place upon the roll either the members from towns formerly classed or the "if entitled" members, and contended that these members could be admitted only by vote of the House after its organization. Fortified by this opinion, the Democratic leaders late in December petitioned the State Supreme Court for a writ of mandamus to enjoin the clerk from placing upon the roll the "if entitled" members and from omitting therefrom certain members from prorated towns. A hearing on these petitions was held by the court on Monday, Jan. 5, 1891, at the close of which the court decided that it had no jurisdiction. The clerk was left free to place his own interpretation upon the law and to make up the roll in accordance therewith. In performing this duty he omitted the members from towns formerly classed, and added to the roll all "if entitled" members who presented their credentials. As thus made up, the roll contained 179 Republicans and 158 Democrats, 4 "if entitled" Democratic members having failed to present their credentials. This action insured the election of a Republican Governor and a Republican United States Senator to succeed Senator Blair.

NEW JERSEY, a Middle Atlantic State, one of the original thirteen, ratified the Constitution Dec. 18, 1787; area, 7,815 square miles. The population, according to each decennial census, was 184,139 in 1790; 211,149 in 1800; 245,562 in 1810; 277,426 in 1820; 320,823 in 1830; 373,306 in 1840; 489,555 in 1850; 672,035 in 1860; 906,096 in 1870; 1,131,116 in 1880; and 1,444,933 in 1890. Capital, Trenton.

Government.—The following were the State officers during the year: Governor, Leon Abbott, Democrat; Secretary of State and Insurance Commissioner, Henry C. Kelsey; Treasurer, John J. Toffey; Comptroller, Edward J. Anderson; Attorney-General, John P. Steckton; Superintendent of Public Instruction, Edwin O. Chapman; Chief Justice of the Supreme Court, Mercer Beasley; Associate Justices, Manning M. Knapp, Alfred Reed, Edward W. Scudder, Ben-

net Van Syckel, David A. Depue, Jonathan Dixon, William J. Magie, and Charles G. Garrison; Chancellor, Alexander T. McGill, Jr.; Vice-Chancellors, Abraham V. Van Fleet, John T. Bird, Henry C. Pitney, and Robert S. Green. Vice-Chancellor Green was appointed on March 4, being the second of the two additional vice-chancellors whose appointment was authorized by an act of the Legislature in 1880.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Atlantic.....	18,704	28,836	10,132
Bergen.....	36,786	41,226	10,440
Burlington.....	55,492	58,528	8,126
Camden.....	62,942	87,687	24,745
Cape May.....	9,705	11,265	1,508
Cumberland.....	37,687	45,433	7,751
Essex.....	189,929	256,098	66,169
Gloucester.....	28,896	28,619	2,708
Hudson.....	187,944	278,126	87,182
Hunterdon.....	38,570	45,385	6,815
Marion.....	58,061	79,573	21,917
Middlesex.....	52,286	61,754	9,468
Monmouth.....	50,583	69,128	18,500
Morris.....	59,861	54,161	8,240
Ocean.....	14,455	18,774	1,519
Passaic.....	68,860	105,046	36,186
Salem.....	24,579	25,151	572
Somerset.....	21,162	28,811	1,149
Sussex.....	28,589	22,259	1,280
Union.....	55,571	72,467	16,896
Warren.....	36,539	36,538	* 36
Total.....	1,181,116	1,444,993	818,817

* Decrease.

Finances.—The balance in the State revenue fund on Oct. 31, 1889, was \$241,996.48; the receipts for the year ensuing were \$1,794,698.14; the disbursements were \$1,602,933.75; and there remained a balance of \$433,760.87 on Oct. 31, 1890. The receipts include the following items: Tax on railroad corporations, \$1,050,451.20; tax on miscellaneous corporations, \$292,137.10; fees paid for certificates of new corporations, \$99,359.72; tax on foreign insurance companies, \$5,459.78; State-Prison receipts, \$56,197.62; official fees, \$21,825.65; judicial fees, \$12,648.24; interest and dividends, \$18,870; proceeds of arbitration in Morris and Essex Railroad matter, \$235,000. The disbursements for ordinary State expenses were as follow: State and county lunatic asylums, \$215,597.13; Home for Disabled Soldiers, \$33,659.17; Reform School for Boys, \$57,209.02; Industrial School for Girls, \$7,437.13; pensions, \$4,145.88; State Prison, \$160,289.27; judicial expenses, \$163,986.21; State government, \$237,437.17; National Guard and military expenses, \$89,685.13; advertising and printing, \$175,419.80; support of blind and feeble-minded, \$54,418.02; miscellaneous expenses, \$104,064.20; loan to sinking fund to pay debt and interest, \$37,389; appropriation to sinking fund to pay bonded debt, \$90,000; total ordinary expenses, \$1,430,737.13. The extraordinary expenses for the year amounted to \$172,196.62. The balance of \$433,760.87 to the credit of the revenue fund, on Oct. 31, will be absorbed by the payment of principal and interest of the public debt, on Jan. 1, 1891, amounting to \$119,357, and the payment of ordinary State expenses until February, 1891, which will amount to about \$300,

000. No considerable revenue accrues to this fund from October until February.

In the State school fund, which is distinct from the State revenue fund, the balance on Oct. 31, 1889, was \$329,904.82; the receipts for the year ensuing were \$1,273,997.02; the disbursements, \$941,876.20; and there remained on Oct. 31, 1890, a balance of \$662,025.64. The permanent investments held by this fund at the latter date amounted to \$3,205,991.95, to which should be added the cash balance of \$662,025.64, making the total value of the fund \$3,868,017.59. The income only of this sum is used for the support of schools.

The receipts of the sinking fund during the fiscal year, including the annual State appropriation, were \$166,418.03; the payments therefrom, including \$100,000 of the principal of the State debt paid, were \$170,726.69; and total value of the fund on Oct. 31 was \$553,107.06. The bonded State debt had been reduced to \$1,096,300 on Oct. 31. The floating debt at the same date was \$400,000, but was reduced, as above stated, to \$300,000 on Dec. 31.

County Debts.—The total debt of New Jersey counties is \$5,159,339, a decrease of \$2,133,105 in ten years. The bonded debt is \$4,868,823, and the floating debt \$290,516. Nearly every county has a debt.

Legislative Session.—The regular session of the Legislature began on Jan. 14, and adjourned on May 23. A new election law, which includes the Australian ballot system, was an important result of the session. It provides for the appointment by the Governor of county boards of registration, which shall appoint local boards of registry and election in each election district. All ballots cast at any election for any public officer or officers within any municipality of the State shall be printed and distributed at public expense. Candidates for office may be nominated by the convention or caucus of any party that received at least 5 per cent. of the total vote cast at the last election in the district or political division for which the nomination is made. Candidates may also be nominated by petition, if such petition is signed by voters equal in number to at least 1 per cent. of the total vote cast at the last election in the district in which the candidate is to be voted for, provided, that if the candidate is to be voted for throughout the State, there shall be at least 800 signatures, and if in any district less than the State, the petition shall be signed by at least 5 voters for every hundred votes cast in the last election, but not more than 200 signatures shall be required in any such case. All candidates are required to write their acceptance upon the nomination certificate. The municipal clerks are charged with the duty of printing and distributing ballots containing the names of candidates filed with them, and all other ballots shall be printed and distributed by the county clerks. A separate ballot shall be prepared for each political party, containing the names of all candidates of the party, under the name of the party, as at present, and a separate ballot may be printed containing the independent nominees. Ballots shall be of white paper, uniform in size, quality, and type, and shall contain on the back nothing but the words of "official ballot for," together with

the name of the election district, the date of the election, and a *fac simile* signature of the county or municipal clerk. The clerks shall also provide a sufficient number of official envelopes made of white paper and stamped on the back in the same manner as the ballots. They shall transmit the ballots and envelopes so prepared to the election officers for use upon election day, but on request of any voter, ten days before election, they may deliver to him as many of the official ballots as he wishes, provided he shall pay the cost of preparing and printing them, but no official envelope shall be so furnished. Such ballots may be distributed before election day, and may be used in voting; but if any ballot or envelope shall be found to contain any mark or device to distinguish it from others, the ballot shall be void.

Any voter may erase any name from his ballot, and write or paste any name thereon, but he must write with black ink or black pencil, otherwise the entire ballot shall be void, and pasters must be printed in black ink on white paper.

Questions submitted to the people shall be printed at the end of each ballot beneath the list of candidates, and if any such questions be marked off or defaced upon the ballot, it shall be counted as a negative vote; otherwise, as an affirmative vote. Polling places shall be provided with booths or compartments having a swinging door so arranged that some part of the person of a voter inside shall be seen from the outside. Said booths shall each contain a counter or shelf, and shall be provided with a sufficient number of ballots and envelopes and with lead pencils. There shall be at each polling place not less than one booth for every seventy-five voters at the last election, and in no case less than five booths. They shall be erected within a railed inclosure, in which the ballot-box shall also be placed, and shall be in full view of the election officers. Every voter, on entering within the railing, shall receive from an election officer at least one of each of the official ballots, and one envelope. With these he shall enter a booth, closing the door, shall then prepare his ballot and place it in the envelope so that it shall be entirely concealed, and shall then retire from the booth and forthwith deposit the envelope containing his ballot in the ballot-box. Only one voter shall be allowed within a booth at one time, but no limit is placed to the number of voters that may be allowed within the railed inclosure. Electioneering within 100 hundred feet of any polling place is forbidden. It is expressly provided that town meetings shall not be subject to this law.

Another act provides that if any railroad or canal corporation shall surrender to the State any right it may have of exemption from taxation, the State shall therefor surrender its right or claim to take or purchase the property of such corporation, providing, that every such corporation must pay to the State any awards made or hereafter to be made in favor of the State against it.

The amendments to the State Constitution proposed by the Legislature of 1889 were agreed to at this session, and provision was made for their submission to the people at a special election to be held on Sept. 30.

Other acts of the session were as follow :

Increasing the annual salary of the Governor to \$10,000.

Forbidding pawnbrokers to sell at the house or place designated in their license anything but goods pledged or pawned to them in the course of their business.

Making desertion for two years a ground of divorce. Providing that the court of chancery may, on petition, authorize a married woman to convey her real estate without her husband joining in the deed in case he is unable to do so by reason of lunacy or other mental incapacity.

Authorizing the consolidation of religious societies of the same denomination.

Providing that any corporation organized for benevolent or charitable purposes may hold real and personal estate not exceeding \$500,000 in value. Providing for the incorporation of societies for the aid of children and the prevention of cruelty to children.

Appropriating \$40,000 for a new building on the State Normal School grounds.

Providing additional free scholarships at the State Agricultural College.

Directing that all license fees for sale of liquors received by the county clerks shall be paid over to the municipalities within which the respective licenses are to be exercised, for the use of such municipalities.

To authorize the establishment of free public libraries in the towns, townships, or other municipalities of the State.

Providing that every citizen entitled to vote at a general election for members of the Legislature shall be entitled to vote at any election of municipal officers held in the municipality where he resides.

To authorize the construction of an additional wing, and certain other alterations, at the State Prison, and appropriating \$100,000 therefor.

Appropriating \$25,000 to erect an addition to the building of the State Industrial School for Girls.

Creating a State board of medical examiners.

To punish any person who shall sell, pledge, pawn, or secrete any property that he has borrowed, hired, leased, or purchased under an agreement in writing, where the title of such property is not to pass until the agreement is fulfilled.

Appropriating \$12,000 for a new building at the Home for Feeble-minded Women, at Vineland.

To establish in the State House a museum for the reception of collections of the natural products and mineral staples of the State and of specimens showing the geology and natural history of the State.

Making it unlawful for any person to sell, or offer for sale, baled hay or straw with more than 10 per cent. of the weight thereof in wood.

Authorizing cities to renew maturing bonds.

Authorizing the Chief Justice and each Associate Justice of the Supreme Court, the Chancellor, and each Vice-Chancellor, to solemnize marriages.

Making persons who carry away with intent to steal, or who unlawfully appropriate, domestic fowl, liable to a fine of not over \$100, or to imprisonment at hard labor not over three years.

Providing that all persons or corporations engaged in the business of finishing silk, or other goods of which silk is the component part, shall be entitled to a lien upon the goods and property of others which may come into their possession for the purpose of being finished and prepared for sale for any work and labor performed or materials furnished in such finishing and preparation.

Establishing at the State Agricultural Experiment Station, at New Brunswick, a central weather station, to be in charge of the officials of the experimental station.

Authorizing the appointment of a committee of six persons to take into consideration the taxation of property, and to report to the next Legislature a bill embodying the results of their inquiries.

Authorizing the school authorities in the various municipalities and school districts to purchase with school funds United States flags, and to display them upon the public-school buildings.

Education.—The school census of 1890 shows the number of children in the State between the ages of five and eighteen years to be 409,762, an increase of 10,710 over the previous year. Of this number, there were enrolled in the public schools 234,072, an increase of 6,631. The number of children attending private schools was 47,269, an increase of 1,504. The number of children that do not attend any school is estimated at over 100,000.

The following are some of the principal expenditures during the school year ending Aug. 31, 1890: Teachers' salaries, \$2,227,131.68; fuel, \$111,388.52; building, repairing, and furnishing school-houses, \$593,083.73; janitors' salaries, books, stationery, taking school census, and expenses, \$341,618.20. The total value of ordinary school property was \$8,629,493; the estimated value of State, Normal, and Model schools, boarding houses, and furniture, \$300,000; and the estimated value of Deaf Mute School and furniture, \$100,000.

There are 4,464 teachers in the public schools, of whom 822 are males, receiving an average salary of \$76.02 per month, and 3,642 are females, receiving an average salary of \$43.82 per month.

The total amount expended for all school purposes during the year was \$3,502,976.81.

During the year 266 pupils were in attendance at the Normal School. The number graduated from the advanced course was 11; the number graduated from the elementary course was 46.

Charities.—At the Morristown Insane Asylum 1,070 patients were cared for during the last fiscal year, of whom 539 were males and 531 females. During the year 182 patients were discharged, leaving 888 remaining on Oct. 31. The daily average was 868. The receipts for maintaining the institution amounted to \$243,583.09; the expenditures were \$231,894.15, leaving a balance Oct. 31 of \$11,688.94.

At the Trenton Insane Asylum there were 955 patients under treatment, 481 males and 474 females. There were 168 discharged during the year, leaving 787 remaining on Oct. 31. The daily average was 774. The receipts, including the balance on hand Oct. 31, 1889, amounted to \$205,844.83; the amount disbursed was \$191,043.34; leaving a balance Oct. 31, 1890, of \$14,801.49.

In the School for Deaf Mutes there were 119 pupils at the end of the fiscal year, an increase of 14 over the previous year. The amount paid for salaries of officers and teachers and all purposes connected with the tuition and maintenance of the inmates was \$38,212.

Soldiers' Home.—There were 463 inmates at the home on Oct. 31, an increase of 32 over the number at the same date last year. There were admitted during the year 428, and discharged, 396. The average number was 450. The receipts for the year amounted to \$57,736.84, of which \$914 was on hand at the time of the last report. The disbursements amounted to \$56,723.11, leaving a balance at the end of the year of \$1,013.73.

Prisons.—The daily average number of prisoners confined in the State Prison during the last fiscal year was 973, of whom 940 were males and 33 females. This is an average of 8 over the daily average of the previous year. There are

accommodations for only 706 prisoners, and the provisions of the law requiring separate confinement for each criminal are necessarily violated. The Legislature of 1890 appropriated \$100,000 for an additional wing to the prison and hospital, and also \$500 to purchase a library. There was also appropriated in the act approved April 7, 1888, for drainage and water supply, \$30,000, making a total of \$130,500 appropriated. The condition of the State treasury has not permitted the expenditures authorized by these acts. The expenses for the fiscal year were \$158,961.39, and the earnings of prisoners were \$61,082.64, leaving a deficit of \$97,878.75, which was supplied from the State treasury.

At the State Reform School there were 372 boys on Oct. 31, 1889; 163 were received during the year ensuing; 189 were discharged; and 346 remained on Oct. 31, 1890. There was received for maintenance during the year the sum of \$50,849.61, and from sales of produce and other sources \$6,873.83, making a total of \$57,723.44. The expenses were \$53,962.38.

At the State Industrial School for Girls, on Oct. 31, there were 63 inmates, and 16 were under indenture. The total receipts were \$10,083.82, and the expenditures \$9,610.24.

Militia.—The National Guard consists of 325 officers and 3,895 enlisted men. There are 57 companies of infantry and 2 Gatling gun companies. The expenses for the last fiscal year were \$91,502.78, being about \$17,000 less than the expenses for 1888. The range for rifle practice was opened at Sea Girt July 15, 1890, and practice continued to and including Sept. 1, 1890. In 1889 there were 511 marksmen; in 1890, 804.

Riparian Commissioners.—The grants in fee made by the commissioners during the year ending Oct. 31 amounted to \$55,616.25, the leases converted into grants to \$357,240.40, and the rentals on leases heretofore made to \$104,821.11, making the total cash received during the year from these sources \$517,677.76. The commission, with the Governor, has visited personally the shore fronts of the counties of Bergen, Hudson, Essex, Union, Middlesex and Monmouth during the year for the purpose of ascertaining and determining prices which should be obtained by the State for its lands under water, and they have, in almost every case, advanced the prices.

Agriculture.—On Jan. 29, 1890, the Governor, urged by complaints of the farmers, requested the State Board of Agriculture to appoint a committee to co-operate with him and a committee to be appointed by the Legislature to investigate the present depressed condition of this industry. The State Board responded by appointing a committee of one from each congressional district. After conferences, it was decided to request the county boards, granges, and other agricultural organizations throughout the State, to hold special meetings for the consideration of certain questions, which were formulated by the committee, the Secretary of the State board, and the Governor. The replies to these questions developed the fact that farm lands had depreciated about 40 per cent. in the past twenty years, that they are now valued too high for purposes of taxation, and that the farmers are suffering from unjust discriminations in freight



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rates. The Governor recommends that the tax laws be amended, that a railroad commission be created, and that a commissioner of agriculture be provided for.

Elections.—Pursuant to the legislative act of this year, a special election was held on Sept. 30, at which two proposed amendments to the State Constitution, adopted by two successive Legislatures, were submitted to the people. The first amendment, which would strike from the Constitution the provision requiring the Legislature to enact general and not local laws regulating the internal affairs of towns and counties, was defeated by a vote of 3,328 yeas to 59,050 nays. The second amendment, which would strike from the Constitution a provision requiring the Senate and General Assembly, in joint session, to appoint judges of the Court of Common Pleas, was defeated by a vote of 16,756 yeas to 45,611 nays.

At the November election, eight members of the State Senate and the entire General Assembly were chosen. The Democrats elected 7 Senators, and the Republicans 1. Of the holdover Senators, 7 were Democrats and 6 Republicans, so that the Senate for 1891 will consist of 14 Democrats and 7 Republicans. Of the members of the Assembly chosen at the same time, 40 were Democrats and 20 Republicans. In the congressional elections the Republicans elected their candidates in the First and Second Districts, and Democrats were elected in the remaining five, a loss of two seats by the Republicans.

NEW JERUSALEM CHURCH. The tables of the United States census of 1890 give this Church 154 congregational organizations in the United States, with 7,095 members. The directory published in connection with the "Journal" of the General Convention of the New Church for 1890 gives in its list of ministers the names of 8 general pastors, 103 pastors, and 10 authorized candidates and preachers; 127 societies, or places containing societies, in the United States and Canada, 75 in England and Scotland, 1 in Austria, 4 in Denmark, 13 in France, 8 in Germany, 1 in Hungary, 9 in Italy, 2 in Norway, 14 in Sweden, 7 in Switzerland, 13 in Australia and New Zealand, 3 in India, 7 in South Africa, 5 in the West Indies, and 1 each in Mauritius and West Falkland Isles. The General Convention includes 11 state associations and 10 societies.

The seventieth annual meeting of the General Convention was held in Chicago, Ill., beginning June 21. The Rev. Chauncey Giles presided. The treasurer reported the amount of \$42,651 to the credit of thirteen special funds of which he had the charge. The general receipts and expenditures of the Board of Publication had been \$2,686. The funds in its hands were the New Church Messenger fund of \$22,459, and the Mrs. McDonald fund of \$7,810. The Merchandise Department, including a book store in New York, had been practically self-sustaining. Besides publishing a number of books or new editions, it had disposed of about 30,000 copies of tracts. The Endowment fund of the Theological School had been increased to \$58,487, and its property at Cambridge, Mass., was valued at \$16,618. The school, which occupies the "Sparks Estate" in Cambridge, had "taken its place in a quiet, orderly manner," and was provided with ample and suitable accommodations. Six students had

been in attendance. The New Church Building fund had a balance of \$318, and was credited with securities in the hands of the treasurer of the value of \$1,200. The value of the Rice legacy was returned at \$9,533, and that of the Rotch legacy (including plates and manuscripts at cost), at \$37,286. The receipts for foreign missions had been \$4,752, a larger amount than in any former year; and the endowment, having been increased by \$1,125, amounted to \$2,125. All the old fields had received attention, and several new ones had been brought to notice and supplied to a limited extent. Of the foreign missions, reports were presented from those in Denmark, Sweden, and Italy, and communications had been received concerning the establishment of a mission in Trinidad. The Convention fixed upon \$10,000 as the amount which the Church ought to raise during the year for missions. The committee on the publication of Swedenborg's manuscripts reported that while, for the want of funds, nothing had been done in the matter, there was danger that prolonged delay in the execution of the work might prevent its being done at all, for the writing was becoming too indistinct to be photographed. Two new volumes of Latin reprints had been published by the American Swedenborg Printing and Publishing Society. A series of resolutions defining the position and doctrines of the Church was referred to the Council of Ministers, and by it placed in the hands of a committee.

The English Conference.—The Annual Conference in England met Aug. 11, under the presidency of the Rev. John Presland. The secretary reported that there were 70 societies connected with the Conference, having 6,249 members. A proposition was entertained for the appointment of a permanent committee on building. Suggestions for increasing, improving, and concentrating missionary operations were accepted as the basis for future action. The amount of the funds administered by the Conference was reported as being £67,000. A scheme for a Minister's Sustentation fund, submitted in 1888, having failed to secure adequate support, was suspended. A proposition was considered for co-operation with the American New Church Sunday-School Association in undertaking the systematic preparation of "Commentaries on the Word," similar in form to the Cambridge Bible for schools.

NEWMAN, JOHN HENRY, Cardinal, born in London, England, Feb. 21, 1801; died in Birmingham, England, Aug. 11, 1890. His father, who belonged to a family of landed proprietors in Cambridgeshire, was a wealthy banker of strong Puritan tendencies. His mother, *Jemima Fourdrinier*, was of French Huguenot origin, and possessed much culture, colored by deep religious feeling. They had three children—two sons, John Henry and Francis, and a daughter, who became the wife of Dr. Thomas Mozley. All three were remarkably gifted, and revealed their superior aptitudes at an early age. John Henry knew the Bible almost by heart, and read, in addition to Calvinistic works, *Paine's "Tracts"* and *Hume's "Essays"* before he was fifteen. Then he was converted, and began to experience those strong religious convictions that clung to him through life.

He received most of his early education at a private school in Ealing, kept by Dr. Nicholas, which was famous in its day, and soon found himself at the head of his class, with his brother Francis not far below. His teachers said he had extraordinary quickness of understanding, learned what he wished, and wished to learn everything—literature, art, science. But he preferred to devote himself to music. When he had not a book in his hand, he was pretty sure to be engaged in practicing on the violin. He composed an opera at the age of twelve, and the name he was familiarly known by was "the little Mozart." He was at the same time gay and sprightly, and was as ardent in his devotion to the school games as to his intellectual labors. It was the wish of his parents that he should become a lawyer. But an event, apparently insignificant, decided his career. Some theological works fell into his hands, among them the writings of Thomas Scott, Law's "Serious Call," and Milner's "Church History." The impression produced on him by these works had the force of a revelation. He received from them, he relates in the "Apologia," those "impressions of dogma" that were never afterward obscured. He also read Newton on the prophecies, and became convinced that the Pope was anti-Christ, a conviction that hardly left him until a few years before he became a Catholic. The change was so complete that he scarcely remembered the fifteen years that preceded it. He heard a mysterious voice drawing him toward the temple. He felt also that to work out his destiny he must lead a single life. Under the influence of these impressions, he entered Trinity College, Oxford, where he formed friendships that were to encourage him in his determination. He acquired, almost from the first moment, an influence over his companions that came from the fascination of his moral nature. The kind of religious devotion with which they listened to him is said to have been due as much to the singularly melodious tones of his voice as to the commanding sincerity of his words. He was graduated in 1820, receiving, to the surprise of his fellow-students, only a third-class. In 1823 he was elected a fellow of Oriel, the most distinguished college of the university.

Newman did not feel himself quite at home during his first year of residence. The college contained the most distinguished names in the university—Whately, Arnold, Keble, Pusey, Hawkins, Hurrell Froude, and others. An instance of Newman's beautiful feeling of reverence for all those whom he considered his superiors is shown in his account of what occurred on the day of his election, when he was sent into the Tower to shake hands with the provost and fellows. "I bore it till Keble took my hand, and then felt so abashed and unworthy of the honor done me that I seemed quite desirous of sinking into the ground."

In 1824 he was ordained priest, and was appointed curate of St. Clement's; in 1825 became vice-principal at St. Alban's Hall, and shortly afterward tutor at Oriel. Up to this time he was considered as belonging to the evangelical school of the English Church. Under the influence of Richard Hurrell Froude, the friend to whom he was most attached, and Keble, he gradually

changed his religious views for others very different from those then held in the English Church, and in 1827 he completely separated from the evangelical party in the university. He was appointed vicar of St. Mary's in 1828, and then began by his sermons to lay the basis of the religious system to which his friend Pusey gave his name. As tutor he was exercising an extraordinary influence over all the students who came under his charge, and the progress of his opinions among them began to alarm the college authorities. When remonstrated with he said simply: "I consider the college tutor to have a care of souls," and rather than give way he resigned his tutorship in 1831. This resignation is generally considered the beginning of the Oxford Movement.

In company with Hurrell Froude he visited Rome in the following year, then traveled through Sicily, and was attacked by fever at Leonforte. He was believed to be dying, but kept constantly repeating, "I shall not die, I have a work to do." He recovered and reached England in July, 1833. During this journey he wrote "Lead, Kindly Light," a hymn which is now a classic and has become popular with Protestants of every denomination.

On his return Newman found the state of the English Church even more alarming than the news that had reached him in Italy indicated. The Reform act of 1830 had given a democratic impulse to the nation, and the established religion was the first to feel the pressure of the new conditions created by it. Bishoprics in Ireland were suppressed, and other symptoms of what he considered grave dangers in the near future were not wanting. Keble delivered his celebrated sermon on "National Apostasy," which gave tone to the Oxford Movement, and the anniversary of which Newman afterward observed as a religious festival. According to the theory of the future cardinal, Anglicanism had no foundation unless it had valid credentials to show of its divine institution, and these he firmly believed it had. But where were they to be found? Clearly in the teaching of the Universal Church. This reasoning rendered necessary an appeal to the fathers and to the history of the Church. Newman had recourse to the fathers, and, as a result of his researches, he invented the "Via Media," or, if it was not invented by him, his powerful genius gave it a passing energy, and for some time it was the point around which the battle raged. This system was intended by him to be a protest against the defects of Protestantism on the one hand, and against the excesses of the Roman Church on the other. To sear his views throughout the kingdom Newman had recourse to means unknown previously in the history of the English Church. He began the famous "Tracts for the Times," "out of his own head," as he afterward declared, and wrote the first one himself. They were little pamphlets or loose sheets, and were read in every corner of England. The effect produced by them might be compared to that of the "Provincial Letters" in the age of Louis XIV. Their success was like the explosion of a mine, and the ecclesiastical authorities were dismayed; but their representations and protests at first only encouraged the movement. When Tract XC appeared the whole country was

in an uproar. In it Newman maintained that the aim of the "Thirty-nine Articles" of the English Church was to condemn the abuses of certain doctrines and not the doctrines themselves, and that subscription might be made to them in a Catholic though not in a Roman sense. This tract was solemnly censured by the teaching body of the university, and a formal retraction was demanded. This was refused, but at the request of the Bishop of Oxford the tracts ceased to appear. They were replaced, however, by other forms of combat, and Newman, under the pseudonym of "Catholics," wrote for the "Times" a series of letters that intensified the conflict.

In 1843 he resigned St. Mary's, previously retracting publicly all the severe things he had said of the Roman Catholic Church. After what was practically a separation from the established Church, he withdrew to the village of Littlemore, about two miles from Oxford, where, in company with his young friends, he led a life of the severest asceticism. He wrote no more, and showed himself nowhere. A delicate conscience imposed upon him the duty of silence until he had made up his mind. The crisis came on Oct. 10, 1845, when he was received into the Catholic Church by Father Dominic, a member of the Passionist order. The news was at first listened to with incredulity. When it became certain, the dismay was indescribable, and was echoed in the leading organs of public opinion. "The Anglican Church reeled under it," said Lord Beaconsfield long afterward, "and still reels." "It is the greatest event that has occurred in England since the Reformation," wrote Mr. Gladstone.

On the advice of Dr. (afterward Cardinal) Wiseman, Newman continued the monastic life of Littlemore for a year longer, and then was called to Oscott, where he remained till October, 1846. He afterward went to Rome to prepare for ordination in the Catholic Church. He was ordained priest and received into the congregation of the Oratorians. He returned to England on Christmas Eve, 1847, and, after living successively in different Catholic colleges, gathered around him some of his old disciples and founded with them the English Congregation of the Oratory of St. Philip Neri. The new community was at first established in a dancing hall in Birmingham, until the charity of his coreligionists enabled him to erect a spacious house in 1851, at Edgbaston, in the suburbs. There he led for several years the life of the humblest and most self-sacrificing priest, and among other deeds of quiet heroism, volunteered to minister to the sufferers from the cholera epidemic of 1849 at Bilston. In 1850 he delivered, on the restoration of the Catholic hierarchy in England, his sermon on the "Second Spring," which Macaulay knew by heart and used to recite in tones of enthusiasm. In the same year his calm and laborious life was disturbed by a grave incident. Father Hyacinth Achilli, an Italian monk who had become a Protestant, was making violent attacks on the Church he had left in different parts of England. When he came to Birmingham, Newman, who was then delivering his "Lectures on the Position of Catholics," devoted one of them to a revelation of the private life of Achilli before he was compelled to leave the Catholic Church. After fifteen months of silence, the lat-

ter brought an action for libel, and Newman obtained permission from the Court to produce witnesses to the truth of his assertions. They came in large numbers from Italy, Malta, and elsewhere, and testified to the truth of the charges of unchastity made by Newman. But the jury accepted the denial of the plaintiff, and Newman was fined \$500 and condemned to remain in prison until it was paid. The verdict was generally censured, and the "Times" declared that henceforward Catholics had the right to say that there was no justice for them in England. The fine was at once paid; but the costs of the trial amounted to more than \$60,000, owing to the expense of bringing over so many witnesses. This gave the Catholics of Europe and America an opportunity of showing their admiration for the illustrious convert, and a far larger sum than was needed was speedily collected.

Freed from the anxieties of this painful trial, the Superior of the Oratory of Birmingham pursued his religious mission and multiplied his labors; for the services rendered by him to his Church imposed new duties on his zeal. He had become the moderator of the Catholic movement, and no important work was accomplished without his participation. In 1854 the Irish bishops confided to him the task of organizing the Catholic University of Dublin. In spite of the obstacles that arose from the refusal of the English Government to recognize its degrees, he succeeded in laying the foundation of an institution of which Ireland is justly proud. He returned to England in 1858, and the rest of his life was passed in the seclusion of his study at Edgbaston.

At the suggestion of Cardinal Wiseman, he threw himself with great energy into the work of a new translation of the Bible, and engaged a body of writers to assist him. For some unknown reason, this was after a time abandoned, but it is hoped that the portion of the Scriptures known to have been translated by Newman may be found among his manuscripts. Another disappointment was his failure to establish a branch of his congregation at Oxford, the Holy See refusing to sanction the project, on the ground that it might result in attracting Catholic young men to the neighboring Protestant university. He now set up a school at Edgbaston, modeled on the great public schools of England, which has turned out many distinguished pupils.

In 1864 occurred the event that changed the whole course of English feeling in his regard. Up to this period "renegade and traitor" were the terms commonly applied to him on the platform and in the press. Henceforward he was to be the model of unstained honor and pure and lofty character in the eyes of his countrymen of every creed and class. In an article in "Macmillan's Magazine," by the Rev. Charles Kingsley, occurred the passage: "Truth for its own sake had never been a virtue with the Roman clergy. Father Newman informs us that it need not, and on the whole ought not to be." We can not enter here into the controversy that ensued, in which the keen and poignant irony, the matchless and polished sarcasm of the great master of English prose showed at its brightest. Enough to say that it produced the "Apologia pro sua Vita," the work that forever shattered the preju-

dices that had hitherto prevented his countrymen from doing Newman justice. The motto that he prefixed to it, *Cor ad cor loquitur*, was singularly realized. Newman had at last reached the heart of England. The "Apologia" came out in seven parts between April 21 and June 2, and the interest increased with each succeeding number. Clerks were seen studying it as they went to their offices in the morning, and preachers made it the topic of their sermons.

When the Vatican Council opened in 1869 Newman was one of the eminent theologians invited to Rome to advise with the Holy See and draw up the *schemata* which the fathers were to consider. Though he declined, he paid close attention to the proceedings of the Council. Like many other Roman Catholic dignitaries, he doubted the expediency of a definition of the doctrine of Papal infallibility; but he had believed and taught the doctrine itself long before the Council assembled, and when it was defined he accepted it without hesitation. The great oratorian being now regarded by all parties as one of the glories of contemporary England, it was considered that the time had arrived for a formal recognition of his genius and virtue. No one, then, was surprised when Trinity College offered him an honorary fellowship in 1877, although he was the first Catholic to obtain this distinction since the Reformation. His return to Oxford, after an absence of more than thirty years, was in the nature of a triumph. He was the guest of the President of Trinity and was received by all the members of the university corporation as a master.

Modest and simple amid all the honors showered upon him, Newman hesitated long before accepting the dignity of the purple in 1879. For some weeks a paragraph in the "Times" headed "Cardinal or not Cardinal" created almost as much excitement as that which attended the appearance of the "Apologia." To take away every pretext for a refusal, Leo XIII dispensed him from the obligation of residing at Rome, a requirement demanded from cardinals who are not bishops. He arrived in Rome on April 24, 1879. His health was much affected during his stay in the city. The formal announcement of his elevation as cardinal deacon was brought to him on May 12 at the Palazzo del Pigna, where he was the center of a brilliant throng of American and English Catholics and of high dignitaries, lay and ecclesiastical. The address that he delivered on the occasion excited universal admiration. "It was," wrote Dr. Pusey, "a beautiful speech, the old John Henry Newman speaking out the truth, yet not wounding a single heart." He was assigned the Church of San Giorgio as his title, and thus became the Cardinal of St. George. He returned by slow stages, and reached Edgbaston on July 1. He continued to govern his monastery and direct the school he had founded as in the past, at the same time regularly making his own bed and setting his sleeping-room in order every morning after rising at 5 A. M. Cardinal Newman passed away peacefully, surrounded by his spiritual children.

His works comprise more than 40 volumes, ranging through all the forms of literature. Among them are: "Lectures on Romanism and Popular Protestantism" (1837); "Letter to J.

Fausset on Certain Points of Faith" (1838); "Parochial Sermons" (8 vols., London, 1838-'44-'90); "Doctrine of Justification" (London, 1840-'90); "Church of the Fathers" (London, 1840-'90); "Essays on the Miracles of the Middle Ages" (1843); "Annotated Translation of St. Athanasius" (London, 1842-'44-'90); "Sermons on Theory of Religious Belief" (1844); "Development of Christian Doctrine" (1846); "Loss and Gain, or the Story of a Convert" (London, 1848; 9th ed., 1890); "Discourses addressed to Mixed Congregations" (London, 1850-'90); "Lectures on the History of the Turks" (1854); "Apologia pro sua Vita" (London, 1864-'90); "Letter to Dr. Pusey on his Recent Eirenicon" (1866); "Calista, an Historical Tale" (London, 1890); "Difficulties of Anglicans" (2 vols., London, 1890); "Dream of Gerontius" (London, 1890); "Essay on Assent" (London, 1890); "Historical Sketches" (3 vols.); "Idea of a University"; "Verses on Various Occasions"; "Via Media" (2 vols.). See also "Cardinal Newman," by John Oldcastle (London, 3d ed., 1890), and his "Letters and Correspondence, with a Brief Autobiography," edited by Anne Mozley (2 vols., London, 1890). The accompanying portrait shows Newman at the age of forty-four.

NEW MEXICO, a Territory of the United States, organized Sept. 9, 1850; area, 122,580 square miles. The population, according to each decennial census, was 61,547 in 1850; 93,516 in 1860; 91,874 in 1870; 119,565 in 1880; and 153,593 in 1890. Capital, Santa Fé.

Government.—The following were the Territorial officers during the year: Governor, L. Bradford Prince, Republican; Secretary, Benjamin M. Thomas; Treasurer, Antonio Ortiz y Salazar; Auditor, Trinidad Alarid; Solicitor-General, Edward L. Bartlett; Commissioner of Immigration, Henry C. Burnett; Chief Justice of the Supreme Court, Elisha Van Long, succeeded by James O'Brien; Associate Justices, William D. Lee, William H. Whiteman, succeeded by Edward P. Seeds, John R. McFie, and Alfred A. Freeman (appointed in October pursuant to an act of the Fifty-first Congress providing for an additional justice of the Territorial Supreme Court).

Population.—The following table shows the population of the Territory by counties, as determined by the national census of this year, compared with the population as shown by the census of 1880:

COUNTIES.	1880.	1890.	Increase.
Bernalillo.....	17,925	20,918	3,988
Colfax.....	3,898	7,974	4,076
Dona Ana.....	7,612	9,191	1,579
Grant.....	4,739	9,657	5,118
Lincoln.....	2,513	7,081	4,568
Mora.....	9,751	10,618	867
Rio Arriba.....	11,928	11,534	511
San Juan.....	.....	1,890	1,890
San Miguel.....	20,638	24,204	3,566
Santa Fé.....	10,867	18,562	7,695
Sierra.....	.....	3,690	3,690
Socorro.....	7,875	9,205	1,330
Taos.....	11,922	9,868	• 1,161
Valencia.....	13,995	13,876	781
Total.....	119,565	153,593	34,028

• Decrease.

Finances.—The finance act known as the "Perea bill," passed at the session of 1889, has caused improvement in Territorial finances. The contrast in expenses before and after March 4, 1889, when it went into effect, was striking. Under the old system the Territorial expenses from Dec. 16, 1886, to March 3, 1889, were \$595,134.37, or an average of \$269,947 yearly. Under the new system the expenses from March 4, 1889, to Dec. 3, 1890, were \$271,665.26, an average of \$155,237 yearly. In the latter figures the amount paid to the new Territorial institutions, \$3,000 in 1889 and \$18,050 in 1890, is not included, as there was no such expense before March, 1889. The court expenses show the greatest decrease. They were \$351,558 from Dec. 16, 1886, to March 3, 1889, and only \$90,560 from March 4, 1889, to Dec. 3, 1890. The total Territorial expenses during the fiscal year ending March 3, 1890, were \$149,430.39. During 1889 Territorial bonds, to the amount of \$39,000, issued in aid of the Penitentiary, were redeemed and canceled. The Territorial debt, thereby reduced, stood as follows in September, 1890: Outstanding warrants, \$150,960.94; Capitol-building bonds, \$200,000; Penitentiary-building bonds, \$120,000; Capitol contingent bonds, \$50,000; current-expense bonds, \$150,000; provisional indebtedness bonds, \$200,000; total, \$870,960.94.

Valuation.—The assessed valuation of the property in the Territory in 1887 was \$45,462,459, in 1888 it was \$45,690,723, and in 1889 \$46,041,010. Included in the assessment for 1889 were 50,552 horses, 4,339 mules, 1,254,649 cattle, 1,820,735 sheep, 54,133 goats, 4,127 burros, and 5,636 swine. The rate of taxation for Territorial purposes in 1890 was 86 cents on \$100.

County Debts.—The total debt of New Mexico counties is \$1,650,837, an increase of \$1,565,965 in ten years, \$1,559,271 being bonded and \$91,566 floating. Of the counties reporting only 1 has no debt.

Education.—The report of the Territorial Auditor presents the following public-school statistics, based on returns from county officers, covering the year ending Dec. 31, 1889: Pupils of school age, 43,864; number enrolled in the public schools (4 counties wanting), 11,638; average daily attendance (3 counties wanting), 11,456; teachers employed (3 counties wanting), male 239, female 153; receipts for school purposes, \$123,895.53; expenditures (2 counties wanting), \$79,185.95. Private schools in the Territory reported 2,107 pupils—1,069 males and 1,038 females. The Territorial Governor presents the following figures for the same period, based partly on returns and partly on estimates: Number of public schools, 508; number of school-houses, 130; male teachers, 354; female teachers, 176; pupils enrolled, 27,052; average daily attendance, 17,018. The English language is used entirely in 164 schools, the Spanish in 139, and in 184 both languages are used. The Governor says: "English is taught in a large majority of the schools, and as the desire of every Spanish-speaking New Mexican is that his children should understand English, it would be taught in all if English-speaking teachers could be found for the small salaries which can be paid in remote districts."

The Legislature of 1889 provided for the es-

tablishment of a university at Albuquerque, an agricultural college at Las Cruces, and a school of mines at Socorro; but the tax devoted to their use is not yet fully available, and only the agricultural college has been opened, being sustained by an appropriation from the United States. The first term at this institution began on Jan. 21, and the second on Sept. 1. Before the close of the year 77 students had been admitted. A three-story brick building is in course of erection. More than 200 acres of agricultural land have been given for the use of the college by the people of Las Cruces and La Mesilla.

Penitentiary.—The Territorial Penitentiary, at Santa Fé, contained 108 male and 6 female prisoners on Sept. 1. Considerable revenue is derived from the manufacture of bricks, of which about 8,000 are produced daily.

Mining.—The product of precious metals in the Territory for 1890, as reported by Wells, Fargo & Co., was \$1,658,991, of which \$376,034 was the value of the gold product, and \$1,282,957 of the silver product.

Railroads.—The railroad mileage of the Territory in 1890 was as follows: Atchison, Topeka and Santa Fé, 690.20; Atlantic and Pacific, 192.26; Southern Pacific, 167.22; Denver and Rio Grande, 160.47; Denver, Texas and Fort Worth, 83.30; Santa Fé Southern, 39; Arizona and New Mexico, 32; total, 1,364.45. Of actual railroad building there has been very little during the year.

Land Titles.—For thirty-six years the plan of adjudication contemplated by the act of July 22, 1854, has been in operation, and yet but little, comparatively, has been accomplished toward the settlement of land titles. Down to July 1, 1890, 213 grants have been presented to the surveyor-general for action; in 162 cases he has taken testimony and made reports to the Interior Department. Previous to 1870 Congress acted on 44 of these cases, during the next decade it acted on only 1, and since 1879 it has not attempted to consider any cases whatever. The House of Representatives has several times passed a bill for the creation of a commission similar to that which existed in California, to settle these titles, only to be met by the objections of the Senate, which insists that they should be adjudicated by the existing courts. Several bills are pending before Congress designed to settle the difficulties.

Constitutional Convention.—Pursuant to authority conferred by the Constitutional Convention that met in September, 1889, its president, J. Francisco Chavez, on June 15, issued a call reconvening the convention at Santa Fé on Aug. 18. At this meeting several important changes were made in the instrument as adopted in 1889. Among other amendments, the date at which the Constitution should be submitted to the people was changed from Nov. 4, 1890, to Oct. 7, of the same year. The convention adjourned *sine die* on Aug. 21. For various reasons, the Constitution in its amended form did not commend itself to the Democrats of the Territory, but was generally supported by the Republicans. Its adoption or rejection became largely a question of party policy. At the election on Oct. 7 the vote was 7,943 in favor of the Constitution, and 16,180 against it.

Political.—On Sept. 3, a Democratic Territorial Convention met at Silver City, and renominated Antonio Joseph for Delegate to Congress. The platform condemned the proposed Constitution that was to be submitted to the people on Oct. 7.

The Republican Territorial Convention met at Albuquerque on Sept. 13, and nominated Mariano S. Otero for Delegate. The platform contains the following:

The Republican party of New Mexico declares itself as unequivocally in favor at all times of the admission of New Mexico into the Union of States, under any possible circumstances, as the one essential condition of our progress and advancement.

At the November election the Democratic ticket was successful, Joseph receiving 17,206 votes, and Otero 15,142. Members of the Territorial Legislature were elected at the same time, as follow: Council, Republicans 7; Democrats 3, representatives of an independent movement called the People's party, 2; House, Republicans 11, Democrats 9, People's party 4.

But the membership of each House, as above given, was not determined until after a contest between the district court of the Territory and the Democratic county commissioners of Santa Fé and Taos Counties, who sought to defy the orders of the court. In these two counties the vote was close, but the complete returns, as unofficially reported, indicated the election of nearly all of the Republican candidates, especially a Republican member of the Legislative Council from each county and two Republican members of the House from each county. After the election the ballot-box, ballots, and returns from each voting precinct are sent to the county commissioners, who are required by law to canvass the returns and issue certificates of election to the successful candidates. In Santa Fé County the ballot-box and returns from one strong Republican precinct mysteriously disappeared from the office of the commissioners, and they refused to canvass the vote cast in that precinct, although a certificate from the election officers stating the vote actually cast was offered to the board. The omission of this precinct would change the result and elect the Democratic candidates. The board also rejected the returns from several other Republican precincts, on technical grounds. It was thereupon summoned before Justice Seeds, of the district court, to show cause why it should not count the whole vote. A hearing was held, and on Nov. 18, the court decided that the commissioners must canvass the vote of every precinct, taking the sworn certificate of the election officers as evidence of the vote cast in the precinct from which the returns were missing. On the same day the court made a similar decision in the Taos County case, where the Democratic commissioners had thrown out returns favorable to the Republicans for reasons similar to those alleged by the Santa Fé commissioners. In Taos County also, the returns from one Republican precinct had mysteriously disappeared. Pursuant to the order of the court, the Santa Fé commissioners met on Nov. 20 and canvassed the returns from every precinct except the one from which the returns were missing. Two of the commissioners, Sloan and Martinez, being a majority of the board, refused to obey the order

of the court regarding this precinct, whereupon Justice Seeds committed them to jail for contempt. They had no sooner been imprisoned than, on an order signed by three justices of the peace sitting as a court, they were liberated by the sheriff, under alleged authority given by a Territorial statute. On complaint by persons interested, Justice Seeds then summoned the sheriff to show cause why he should not be himself committed for contempt of court. The hearing on this order was held on Nov. 24, and the court decided that it must hear evidence of the alleged contempt, as it was not committed in the presence of the court, before it could pass judgment, and that the case must take its turn on the docket with other criminal proceedings at the next term of the court. Soon after this decision, at the instance of the relator in the original mandamus proceedings against the county board, Justice Seeds reopened the case and issued an order directing the sheriff to report his doings therein, and the two commissioners to show cause why they should not be recommitted. The sheriff reported that he had liberated the prisoners on a writ of *habeas corpus* issued by three justices of the peace, whereupon the court ruled that, while there might be some color of legality under the peculiar wording of the statute for the action of the three justices of the peace, still in reality it could not be held that the legislative intent ever contemplated such an extraordinary proceeding, and the action of the three justices was void. The court said, in announcing the decision, that if such action could be legally taken, there was no reason why every prisoner confined in the Territorial Penitentiary could not secure his liberty under the *habeas corpus* act by applying to any three justices of the peace in the Territory. The court further declared that the law provided ample authority for the punishment of parties in contempt, and it was therefore ordered that the sheriff rearrest the commissioners Sloan and Martinez, and confine them in jail until they saw fit to obey the order of the court.

Before this order could be executed, Martinez and Wyllys (the third commissioner) fled from the Territory, while Sloan signified his desire to obey the order of the court and was not molested. Secretary Thomas, who was temporarily the acting Governor, then issued an order on Dec. 5 declaring that the absconding commissioners had vacated their offices, and appointing two Republicans as their successors. The reorganized board was ordered by Justice Seeds to complete the canvass, which was done by the two new commissioners, Sloan refusing to participate. The Democratic clerk of the board now refused to obey the order of the court to record the action of the new commissioners, whereupon, after a hearing, he was committed to jail for contempt. The absconding commissioners next returned, claimed that they were still the legal county officers, and issued certificates of election to the Democratic legislative candidates, while the two new commissioners issued certificates to the Republican candidates. The law requires that these certificates be presented, at the opening of the legislative session, to the Territorial Secretary, whose duty it is to call each House to order, administer the oath to members present-

ing proper certificates, and preside until an organization is effected. The Legislature met on Dec. 29, and Territorial Secretary Thomas recognized only the certificates signed by his own appointees. He therefore swore in the Republican candidates from Santa Fé County, and they alone took part in the organization.

Meanwhile, in the Taos County case, similar proceedings had taken place. Two of the three county commissioners refused to obey fully Justice Seeds's order of Nov. 18 to canvass every precinct, and about Dec. 15 they were arrested and brought before the court at Santa Fé. The United States marshal having them in custody was directed to imprison them if they did not obey the court. After some delay, the marshal returned with them to Taos County to complete the canvass. This they failed to do, and the marshal applied to the sheriff to receive them into the county jail, according to the order of the court. The sheriff refused, and thereupon three justices of the peace, acting under the alleged Territorial statute, issued a writ of *habeas corpus*, which the sheriff attempted to serve upon the United States marshal, the object being to secure the liberation of the commissioners from the marshal's custody. The marshal refused to recognize this order, whereupon the three justices issued an order for the arrest of the marshal, and the sheriff arrested him. He was afterward liberated, but two of the commissioners escaped and could not be found by the officers. Thereupon Secretary Thomas issued an order vacating their offices and appointing two new commissioners, who were directed to complete the canvass in company with the third. This was done, and certificates were issued to the Republican candidates. The Democratic candidates also received certificates from the absconding commissioners. On hearing the story of the United States marshal, Justice Seeds issued an order for the arrest of the Taos County sheriff and the three justices of the peace, as well as the absconding commissioners. Another marshal was sent to Taos County, and the sheriff and justices of the peace were arrested and brought to Santa Fé late in December. Secretary Thomas admitted the Republican candidates from Taos to seats in each House in the same manner as in the Santa Fé cases.

NEW YORK, a Middle State, one of the original thirteen, ratified the Constitution July 26, 1788; area, 49,170 square miles. The population, according to each decennial census, was 340,120 in 1790; 589,051 in 1800; 959,049 in 1810; 1,372,111 in 1820; 1,918,608 in 1830; 2,428,921 in 1840; 3,097,394 in 1850; 3,880,735 in 1860; 4,382,759 in 1870; 5,082,871 in 1880; and 5,997,853 in 1890. Capital, Albany.

Government.—The following were the State officers during the year: Governor, David B. Hill, Democrat; Lieutenant-Governor, Edward F. Jones; Secretary of State, Frank Rice; Comptroller, Edward Wemple; Treasurer, Elliot Danforth; Attorney-General, Charles F. Tabor; State Engineer and Surveyor, John Bogart; Superintendent of Public Instruction, Andrew S. Draper; Superintendent of Prisons, Austin Lathrop; Superintendent of Insurance Department, Robert A. Maxwell; Superintendent of Bank Department, Charles W. Preston; Superintendent

of Public Works, Edward Hannen; Commissioner of Statistics of Labor, Charles F. Peck; Railroad Commissioners, William E. Rogers, J. V. Baker, Jr., Michael Rickard; Chief Judge of the Court of Appeals, William C. Ruger; Associate Judges, Robert Earl, Francis M. Finch, Charles Andrews, Rufus W. Peckham, John C. Gray, and Denis O'Brien.

Population.—The following table shows the population of the State by counties, as determined by the national census of this year, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Albany.....	164,800	164,555	9,665
Allegany.....	41,810	43,240	1,430
Broome.....	49,488	62,973	13,480
Cattaraugus.....	55,906	60,300	5,390
Cayuga.....	65,081	65,302	221
Chautauqua.....	65,342	70,202	9,860
Chemung.....	49,065	48,265	5,200
Chenango.....	89,891	87,776	* 2,115
Clinton.....	50,897	46,487	* 4,460
Columbia.....	47,928	46,173	* 1,756
Cortland.....	26,825	28,067	2,242
Delaware.....	42,721	45,496	2,775
Dutchess.....	79,154	71,879	* 7,265
Erie.....	219,884	222,981	108,097
Fayette.....	84,515	82,052	* 1,468
Franklin.....	82,890	88,110	5,720
Fulton.....	80,955	87,650	6,665
Genesee.....	82,806	83,265	469
Greene.....	82,695	81,598	* 1,097
Hamilton.....	3,923	4,762	839
Herkimer.....	42,669	45,608	2,939
Jefferson.....	66,103	68,806	2,708
Kings.....	899,495	888,547	299,052
Lewis.....	81,416	29,806	* 1,610
Livingston.....	89,562	87,801	* 1,761
Madison.....	44,112	42,892	* 1,220
Monroe.....	144,908	189,586	44,688
Montgomery.....	38,315	45,699	7,384
New York.....	1,206,299	1,515,801	309,002
Niagara.....	54,178	62,491	8,318
Oneida.....	118,475	122,922	7,447
Onondaga.....	117,868	146,247	28,374
Ontario.....	49,541	48,456	* 1,085
Orange.....	88,220	97,859	9,639
Orleans.....	80,128	80,803	675
Oswego.....	77,911	71,888	* 6,028
Otsego.....	51,897	50,861	* 1,036
Putnam.....	15,181	14,849	* 832
Queens.....	90,574	128,059	37,485
Rensselaer.....	118,328	124,511	9,188
Richmond.....	88,991	91,693	12,702
Rockland.....	27,690	35,162	7,472
St. Lawrence.....	88,997	85,048	* 949
Saratoga.....	65,156	67,693	2,507
Schenectady.....	28,588	29,797	6,299
Schoharie.....	82,910	29,164	* 8,746
Schuyler.....	18,842	16,711	* 2,131
Seneca.....	29,278	28,227	* 1,051
Steuben.....	77,586	81,478	8,887
Suffolk.....	58,588	62,491	8,608
Sullivan.....	82,491	81,081	* 1,460
Tioga.....	82,678	29,936	* 2,788
Tompkins.....	84,445	39,223	* 1,523
Ulster.....	88,888	87,062	1,224
Warren.....	25,179	27,866	2,687
Washington.....	47,871	45,690	* 2,181
Wayne.....	51,700	49,729	* 1,971
Westchester.....	108,988	146,712	37,724
Wyoming.....	99,907	81,193	* 286
Yates.....	21,987	21,001	* 86
Total.....	5,082,871	5,997,853	914,982

* Decrease.

Finances.—The State debt has been reduced during the year by the payment of \$100,000 of Niagara reservation bonds, and \$1,710,550 of the canal debt. On Sept. 30, 1890, its amount was \$4,964,304.87, classified as follows: General fund (Indian annuities), 122,694.87; canal debt, 4,341,610; Niagara reservation bonds, \$500,000; total

debt, \$4,964,304.87; aggregate sinking fund, \$3,163,722.49; total debt unprovided for, but not yet due, \$1,800,581.38.

The balance in the treasury on Oct. 1, 1889, was \$5,426,609.05, the total receipts for the fiscal year ensuing were \$18,212,399.49, and the total expenditures \$17,446,854.70. The total amount expended in the construction of the new Capitol building to Sept. 30, 1890, has been \$18,568,677.82.

For 1890 the assessed valuation of property was \$3,683,653,062, of which the value of real estate was \$3,298,323,931, and of personal estate, \$385,329,131. This is an increase over the figures of 1889 of \$85,152,730 in the value of realty and \$31,071,575 in the value of personally. The rate of State taxation was 2-34 mills, which produced a revenue of \$8,619,748.17 devoted to the following purposes: Schools, \$3,830,999.19; canals, including canal debt, \$2,210,191.84; general purposes, \$5,578,557.14. This rate is much lower than the rate for 1889. The reduction is due to the fact that by reason of executive disapproval (after the adjournment of the Legislature of 1889) of various appropriations amounting in the aggregate to over \$1,800,000 there was left a surplus of that amount in the treasury, which was utilized in 1890 in lessening the amount necessary to be raised for the fiscal year, and because of the further fact that the assessed valuation of taxable property had been increased as above shown.

The law for taxing collateral inheritances and gifts is now generally understood throughout the State, and is uniformly respected and enforced. The courts have settled most of its mooted and important provisions, so that the system is substantially established as part of our taxing system. Only large estates pay this tax, legacies and inheritances for less than \$500 being exempt. The tax collected for the year 1889 amounted to \$1,075,692.25, and for the year 1890 to \$1,117,637.70, an increase of \$41,945.45.

County debts.—The total debt of New York counties is \$10,064,372, a decrease of \$2,341,936 in ten years. Of this total, \$9,087,839 is a bonded debt and \$976,533 a floating debt. Twenty-three of the 60 counties have no debt.

Legislative Session.—The Legislature of 1890 was in session from Jan. 7 till May 9, eighteen weeks. Much of the time in the earlier days was spent upon a wrangle over the World's Fair. The Governor refused to sign nearly 200 bills that were left in his hands. The total number of new laws was 568.

The rate of taxation for the year is smaller than for many years, owing partly to an excess of funds raised in 1889 through appropriations that were not signed, and partly to smaller appropriations than the average for 1890. An appropriation of \$365,000 was made to resume work on the new Capitol. A large portion of this was for repairs to the Assembly chamber and for ventilation. The bills requiring a census of the State and a constitutional convention failed to pass. An inquiry showed that the cost of investigations for the past ten years was over \$400,000. A commission has been appointed to determine the status of the Cayuga Indians, but a bill to divide the Indian reservations of the State among the individual Indians was not signed. A law was passed for the prevention of bribery on the part of public officials, and another making it a misdemeanor for public officers to take part in a public contract. The printing laws were amended so that all the State reports will hereafter be distrib-

uted in all the public departments. The villages of Corning and Gloversville were chartered as cities. A long investigation was begun, early in the session, into the municipal government of New York city, which, it is claimed, has led to important results; but this is also denied. A commission was created to inquire into the expediency of consolidating the municipalities of the State of New York occupying the several islands in the harbor of New York. The commission consists of six persons appointed by the Governor, the State Engineer, and Surveyor, and one person to be designated by each of the following authorities: The Mayor of New York, the Mayor of Brooklyn, and the Board of Supervisors of Westchester, Queens, Kings, and Richmond Counties. Important amendments were made to the charters of Binghamton, Buffalo, Brooklyn, Elmira, and Troy. A new law provides that the Sheriff of New York County shall hereafter have a salary instead of fees. The city of Syracuse was allowed to draw water from Skaneateles Lake under control of the State authorities, so that the supply for the canals shall not be made less. Glens Falls is allowed an additional supply of water, and steps were taken to improve the service of Schenectady.

The city of Lockport is allowed to issue \$125,000 in bonds for new sites and school-houses. The city of Buffalo is allowed to bond itself in \$150,000 for new sites and buildings. The Young Men's Association of Albany is allowed to hold certain property exempt from taxation. A law was passed providing that trustees in rural districts shall not hire teachers for less than ten weeks. An enabling act was passed for New York city in regard to sites for school-houses, and more lectures are to be given under the operation of present laws for working men and working women. An important bill was passed providing for fire escapes on school-houses more than two stories high, New York and Brooklyn being exempted from its provisions. Normal-school appropriations were passed as follow: New Paltz, \$10,000; Oneonta, \$40,000; Lockport, \$6,000; Plattsburg, \$25,000; Fredonia, \$61,000. The appropriations for the instruction of teachers have been doubled so as to increase the number of training classes in academies and union schools. An easier method of distributing the school moneys has been enacted into a law. Another law prevents special legislation in the future for extraordinary purposes. It allows the buying of new sites and the building of school-houses without coming to the Legislature as formerly.

The Governor signed a bill providing that all corporations shall pay the wages of their employes weekly after July 1, 1890. The Chief Factory Inspector was allowed to appoint eight female factory inspectors, at salaries of \$1,000 yearly. Another law amended the Revised Statutes relative to exemption of household furniture and working tools from distress for rent and sale under execution. Still another included veterans of the Mexican War among honorably discharged soldiers who shall have preference in being employed by the State. The question of better security for wages was covered by a new law, which amends the Code of Civil Procedure relative to actions by female employes in justices' courts in the city of Brooklyn so that such employes may secure their wages more easily.

The penalty for violating the milk-can law has been increased so that suits may be taken to the Supreme Court. Experiments in fertilizers are to be continued, and safeguards are provided for their use in this State. The Mase dog-tax law of 1889 was repealed. Justices of the peace may order dogs to be killed for attacking persons and animals on the public highways. The law relating to highways through vineyards has been repealed. More safeguards have been thrown about the use of skim milk. Horticultural and agricultural societies have been exempted from the corporation tax law. More prompt payments of receipts from the Ives Pool law are to be made to the State Agricultural Society.

A law was passed providing that, six months after its passage, no officers of the State or of any county in the State shall be permitted to sell upon the market, or to any agents, goods or articles manufactured in whole or in part by the inmates of any State prison, penitentiary, or reformatory supported in whole or in part by the State; and that the superintendent of State prisons, the officers in charge of State reformatories, the wardens or officers of county penitentiaries and other reformatories where the inmates are composed of persons sentenced by any criminal court in this State, shall be empowered to employ the inmates under their charge; but none of the product of such labor shall be sold to any person or persons; it shall be wholly utilized by the charitable institutions supported wholly or in part by the State. Another law prohibits the manufacture of hats or the doing of any printing in the State prisons except for the prison authorities. A new House of Correction for women, with an appropriation of \$350,000, was ordered for the western part of the State.

Important legislation was enacted concerning elections. The first law, known as the "Corrupt Practices act," requires every candidate to give an itemized account of his election expenses within ten days after election on pain of imprisonment of not less than three months nor more than one year. In the Albany charter election it was found that candidates evaded the spirit of the law by fling a record of lump sums only, as paid over to political committees, etc. The second great measure that became a law was the Saxton Ballot-Reform bill. As originally introduced, providing for a strictly official ballot known as the "blanket," it was vetoed. The second Saxton bill differed from the first merely as to the method of providing for ballot clerks and in permitting the illiterate voter to take a friend into the booth with him. As finally passed and signed by the Governor, it differed from the first bill in dispensing with the blanket ballot altogether and requiring each group of nominations to be printed on a separate official ballot. It also permitted the use of a paster ballot that could be placed over the official ballot. Under its provisions each voter receives as many separate tickets as there were formerly separate columns upon the blanket ballot. But everything that the voter receives must be officially accounted for by him before he can leave the booth, what he does not use being destroyed. The Linson bill, aiming at the same reform, permitted the use of party unofficial ballots. Another law allowed cities, towns, and counties to raise money enough to pay the additional expense incurred by the new system of voting by putting it into the tax levy or allowing them to make loans to cover the amount necessary. The new general registry law declared that in all the cities of the State hereafter, every citizen, in order to vote, must register in person. In cities the boards of registry are to sit on four successive Saturdays—the fifth, fourth, third, and second before election—to register voters. That has been the law in New York city for some years, and all the cities of the State, including New York and Brooklyn, are now placed under a uniform registration law. In the State outside of the cities every voter is required to be registered, but he is not required to appear in person. In the country the inspectors of election are required first to copy the poll lists of those who voted at the State election the last November. To this list they shall add the names of such other persons as they know to be legal voters in the district or as are proved to be. This work must all be done at the first two meetings of the boards, to be held on the third and second Saturdays before an election. At the third meeting, to be held the Friday before election, no new names shall be added except of voters who appear in person to be registered. At all three meetings the board shall strike from the registry the names of persons not entitled to vote. A special law was passed bringing the city of Brooklyn under this law in regard to days of registration. An amendment was made to the Primary Election act of 1887 so as to place prima-

ries in a village where a daily newspaper is published on the same ground as primaries in cities, by requiring the publication in the newspaper of a notice of the primary. Another law amended the act relative to voting on propositions to raise money by tax at town meetings so that such meetings may use ballots instead of the *escia voce* vote.

A law was passed providing that from Sept. 1, 1891, there shall be three separate boards of medical examiners in this State—one representing the Medical Society of the State, one representing the Homoeopathic Medical Society, and one the Eclectic Medical Society. Hereafter no person can practice medicine in the State until he has passed a rigid examination, uniform for all parts of the State and for all subjects except therapeutics, in which each school has its own examination.

A law was passed, to take effect Sept. 1, 1890, providing that in cities having a population of 100,000, and not exceeding 500,000, according to the census of the United States to be taken in the year 1890, no corporation, association, or person shall charge for illuminating gas a sum to exceed \$2 a thousand cubic feet; in cities having a population of 500,000, and not exceeding 1,250,000, no corporation, association, or person shall charge more than \$1.50 a thousand cubic feet.

Insurance laws were passed as follows: Allowing protective companies to be incorporated the same as hook-and-ladder companies; making it optional with any mutual insurance company organized in this State to receive an all-cash payment instead of a deposit note for premiums; amending the Anti-Rebate law of 1889, so that every agent or broker must procure a certificate of authority from the Insurance Department before doing business, and also giving the Attorney-General more power to act in cases of violation of the law; amending the service of process law upon foreign companies, so that when cities or villages have a fire or salvage corps the 2-per-cent. premium may be paid to such patrol or corps; changing the name of the Commercial Union Life Insurance Company to the Commercial Union Alliance; providing that no order, judgment, or decree, enjoining, restraining, or interfering with the prosecution of the business of any life or casualty insurance company, association, or society of this State, or appointing a temporary or permanent receiver thereof, shall be made or granted otherwise than upon the application of the Attorney-General, on his own motion or after his approval of a request in writing of the Superintendent of the Insurance Department, except in an action by a judgment creditor, or in proceedings supplementary to execution; amending the County and Town Co-operative acts so as to provide for a notification to the members of a company within thirty days from the adjustment of a loss that an immediate assessment is made necessary; amending the acts relating to premiums of foreign companies so that such premiums may be paid to the treasurer of the fire department of unincorporated villages.

By the action of the last Legislature, the people will vote on constitutional prohibition in April, 1891.

The American Home Missionary Society was allowed to meet in any part of the United States; and religious and charitable institutions have been exempted from the Collateral-Inheritance Tax law.

A law was passed giving better facilities for missionary educational work.

Four measures for the relief of the insane were recommended by the State Commission in Lunacy that was created by a law of 1889. The most important was the bill transferring the insane of all the counties from the county asylums to the State asylums. The number of insane affected by this law is a little less than 2,300, fewer than one half of the whole number now cared for by the State. No asylums are to be built, as the State, before the passage of the law, had entered upon the construction of buildings in which 1,600 can be accommodated, leaving only 700 to be provided for by the erection of small, detached build-

ings on the grounds of the present State asylums, at a cost of \$550 per patient. The names of the several insane asylums in the State were changed to "State hospitals," with the idea that the new name would be beneficial to the patients. Insane or feeble-minded women, by a new law, are to be attended by women while in custody. Another law provided that insane woman criminals shall be attended by a resident woman physician.

The sum of \$500,000 was appropriated to continue improvements on the canals, including the lengthening of new locks. The amount for canal maintenance was \$950,000, in place of \$800,000 in 1889. An appropriation was made for continuing work on the Shinnecock and Peconic Bay Canal. A charter was given for the Waddington Bridge Company to place a bridge over the St. Lawrence river. A charter was passed for the River Bridge Company to construct a bridge over the Niagara river between this State and Canada. The city of New York was allowed to build a bridge across the Harlem river, not to exceed \$1,250,000 in cost; and the time for building the tunnel under the Hudson river was extended. A charter was granted for the New Jersey Bridge Company to bridge the Hudson between New York city and some point in New Jersey, with a capital of \$10,000,000.

A law was passed providing that no child actually or apparently under sixteen years of age shall smoke or in any way use cigar, cigarette, or tobacco in any form whatsoever in any public street, place, or resort. A violation of this shall be a misdemeanor, and shall be punished by a fine not exceeding \$10, and not less than \$2 for each subsequent offense.

A law was passed authorizing the purchase of land in the counties contained in the forest preserve at not to exceed \$1.50 an acre. The sum of \$25,000 was appropriated as a beginning. New game laws were passed as follows: Prohibiting the shipment of partridge and prairie chickens between Jan. 1 and Sept. 1; creating a commission to codify all the game laws of the State; repealing the high-tax dog law of 1889; forbidding the taking of oysters in South Bay by dredge; protecting fish in Jamaica Bay.

A law was passed creating a mining inspector, to be appointed by the Governor and confirmed by the Senate; and another law allows mining on State lands on the payment of a royalty. Trust companies shall not invest more than 10 per cent. of their capital stock in the stock of any private or unincorporated company. Pawnbrokers are not allowed hereafter to sell their goods until they have remained one year in their possession; and then the sale must be at public auction by a licensed auctioneer.

The penal code was amended so as to punish more severely any person who tampers with a railroad track or throws missiles at any train. The commission to revise the statutes reported a codification of the railroad laws, which was signed by the Governor.

The armory appropriation bills that became laws were the following: Utica, \$25,000; Poughkeepsie, \$35,000; Geneva, \$25,000; Olean (reappropriation), \$25,000; Middletown, \$7,000; Mohawk, \$15,000; Jamestown, \$25,000; Malone, \$25,000; and Cohoes, \$25,000. A new rifle range, between Albany and Troy, was purchased for the Third Brigade; but it is likely to be used by the whole of the National Guard. The United States is allowed to acquire more land in connection with its military post at Plattsburg. Reappropriations of moneys were made to continue the erection of regimental and battery monuments at Gettysburg. A new law allows a majority of town electors by ballot, to raise not to exceed \$100 to defray the expenses of Memorial Day. Another law provides that any number of persons, not fewer than 25, citizens of the United States, and of the State of New York, and honorably discharged soldiers or sailors of the national army or navy, or lineal male descendants of such, may incorporate social, literary, charitable, and historical societies.

Education.—The following statistics cover the school year ending July 25, 1890:

	Cities.	Towns.	State.
Children of school age	1,088,988	756,508	1,844,596
Children enrolled in public schools	501,449	540,711	1,042,160
Average daily attendance ..	336,018	306,966	642,984
Male teachers employed	911	4,447	5,358
Female teachers employed	9,009	17,276	26,285
Average annual salary of teachers	\$694 29	\$285 49	\$486 71
Average school year in weeks	39.9	85.7	87.8
Log school-houses		49	49
Frame school-houses	63	10,095	10,158
Brick school-houses	509	968	1,477
Stone school-houses	6	382	388
Value of school property	\$27,976,561	\$18,680,174	\$46,656,735

The total receipts for school purposes were \$30,473,660.92; the expenditures were a little less than that.

The number of pupils attending the normal schools during the year was 7,210, divided as follows: At Albany, 695; at Brockport, 855; at Buffalo, 641; at Cortland, 846; at Fredonia, 598; at Geneseo, 879; at New Paltz, 430; at Oneonta, 349; at Oswego, 933; at Potsdam, 924. The number of graduates was 569. The total expenditure for these schools during the year was \$227,686.81. The normal-school building at Plattsburg, provided for by the Legislature in 1889, was ready for occupancy in September of this year, and the school was opened at that time. There are, therefore, 11 normal schools in operation in the State.

The report for the year of the Indian schools at the several reservations is as follows: Children of school age, 1,595; number enrolled in the schools, 1,005; average attendance, 446; number of teachers, 30; school year, in weeks, 36; cost of maintaining schools, \$10,713.96.

Charities.—The number of insane persons in custody in the State on Sept. 30 was 16,002, of whom the 8 State hospitals contained about 6,000. The total cost to the State for maintaining these 8 institutions during the year was \$1,105,986.91. The original cost of buildings and furniture was \$8,889,130.03. Under the operation of the act of 1890, the Lunacy Commission has transferred to State hospitals during the year all the insane poor from 9 counties, and a part from 5 others, reducing the number of insane under county control from 2,200 in April to 1,692 on Dec. 31. Twenty-three counties are now entirely relieved of their insane poor. By these transfers the present capacity of the State hospitals has been nearly reached. The act above mentioned provides, however, for the erection of additional buildings at the various institutions at a cost not to exceed \$550 for each patient accommodated. When these are completed and all insane poor taken to them from poor-houses the act will have full effect and the entire cost will be borne by the State.

There are 7 public institutions for the deaf and dumb in the State, at which pupils are supported at public expense. The number of pupils at these institutions during the year was 1,380, of whom 866 were supported by the State, 458 by the counties, and 56 by individuals.

The State Institution for the Blind, in New York city, contained 243 pupils during the year.

Prisons.—The number of convicts in the several State prisons on Sept. 30, 1890, was 3,508, against 3,480 on Sept. 30, 1889. Of these, 1,151 were at Auburn, 804 at Clinton, and 1,553 at Sing Sing. The cost of maintaining the Auburn prison during the year was \$136,391.57, while the earnings of prisoners amounted to \$86,923.98, causing a deficiency of \$49,467.59. At the Clinton prison the cost of maintenance was \$129,153.74, and the earnings \$34,870.27, leaving a deficiency of \$94,283.47. At the Sing Sing prison the cost of maintenance was \$168,722.16, the expenses \$153,457.58, and the deficiency \$15,264.15. The total deficiency in the 3 prisons was \$159,015.64, while for the previous year it was \$369,274.25.

The act of 1889 providing for the employment of prisoners was passed so late in the session that its provisions could not be put in operation before Sept. 30 of that year, which was the beginning of the fiscal year. The law has proved reasonably satisfactory. It aims to secure the employment and education of convicts, with a view to their reformation and the diversification of pursuits in the prisons so as to reduce, to the lowest degree, injurious competition with free labor. Prisoners may be employed both on the piece-price system and on the State account, but not more than 100 of them shall be employed in any one industry.

At the Asylum for Insane Criminals there were 236 inmates on Sept. 30, an increase of 17 for the year. This institution is overcrowded. A new prison for the criminal insane is nearly completed at Matteawan, Dutchess County, and when this is occupied the present one at Auburn will be used as a part of the recently adopted policy by which the State cares for the insane hitherto kept in the poor houses in the several counties. The total expenditures were \$49,204.59.

Militia.—The aggregate strength of the National Guard of the State for 1890 was 13,426 men—artillery, 398; infantry, 12,800; cavalry, 103; signal corps, 35. This is 406 less than the aggregate strength in 1889. The capital invested by the State in armories, etc., amounts approximately to \$5,174,751, not including the Seventh Regiment Armory, the two rifle ranges, or the land on which armories are to be built at Cohoes, Malone, and Geneva. Those would raise the total to about \$6,000,000. The annual appropriation by the State is \$400,000, the quota from the General Government is \$34,173.72, and the annual rental paid by counties, exclusive of \$15,000 on Seventh Regiment Armory bonds, is \$59,000.

Canals.—The amount expended during the year for ordinary repairs and for operating expenses was \$826,934.84, and the total tonnage for the season was 5,246,162 tons. The canals were opened on April 28, and were closed on Dec. 1. In that time they carried 38.72 per cent. of all the grain delivered in the city of New York. The work of lengthening the locks so as to allow the locking of two boats at a time is still in progress, and about three fourths of all the locks from Buffalo to Albany are now doubled in capacity. In this means two or three days are saved in a round trip.

Banks.—The resources of the savings banks of the State on Dec. 31 amounted to \$667,865,396. The bonds and mortgages held by them

amounted to \$258,326,578, the par value of stocks and bonds to \$292,347,360, the market value of the latter to \$338,321,886, the cash on deposit to \$36,366,306, and the cash on hand to \$8,433,656. There was due to depositors \$574,669,972, and the surplus amounted to \$89,741,231. The open accounts numbered 1,477,819, making the average deposits \$388.20. There was paid in salaries \$1,324,133. The interest credited and paid in 1890 was \$19,235,506.

Railroads.—The report of the railroad commissioners for the year ending June 30, 1890, presents the following figures: Gross earnings of railroads, \$163,974,833.87; operating expenses, \$107,959,410.80; net earnings, \$56,015,423.07; interest charges, \$27,520,491.31; taxes paid, \$5,496,092.37; dividends, \$15,250,052.76; surplus, \$4,382,244.42; miles of road in operation, 7,590; stock and debt, \$1,288,688,907.56; cost of road and improvements, \$1,225,335,120.65. All these figures show a moderate increase over 1889, except in case of the surplus, which is reduced about \$150,000.

Political.—The only State officer to be elected this year on a general ticket was a judge of the Court of Appeals to succeed Judge Robert Earl, a Democrat. The Republican State Committee, at a meeting in New York city, on Sept. 2, decided not to call a State convention of the party, but nominated Judge Earl for re-election, although he was, politically, an opponent. Resolutions were adopted heartily commending the administration of President Harrison and the action of Speaker Reed and his Republican associates in the House. The McKinley bill, commercial reciprocity, protection, and the Federal Elections bill were strongly approved.

On Sept. 23 the Democratic State Committee met at New York, and, without calling a party convention, nominated Judge Earl. It passed resolutions urging union in New York city on Congressmen, Assemblymen, and city ticket, and issued an address attacking the Elections bill, the Administrative Customs bill, and the Republican record in Congress.

The Prohibitionists placed in nomination Silas W. Mason, and the Socialist-Labor party Francis Geran.

At the November election Earl received 927,243 votes; Mason, 33,621; and Geran, 13,337. Members of the Assembly were chosen at the same time as follow: Republicans, 60; Democrats, 68. There was no election for members of the State Senate, the terms of Senators elected in 1889 not expiring this year. As the Senate of 1890 contained 19 Republicans and 13 Democrats, the Democrats will have a majority of 2 on joint ballot with the new Assembly, and will elect a Democratic United States Senator in 1891. The election held at the same time in the several congressional districts resulted in the choice of 23 Democratic and 11 Republican Congressmen, a gain of seven by the Democrats.

NEW YORK CITY. Government.—The city officials who held office on Jan. 1, 1890, were: Mayor, Hugh J. Grant, Tammany Democrat; President of the Board of Aldermen, John H. V. Arnold; Register, Frank T. Fitzgerald; Sheriff, James A. Flack.

Finances.—According to the Mayor's message, the condition of the city debt is as follows:

FUNDED DEBT.	Outstanding			
	Dec. 31, 1888.	Issued during 1890.	Redeemed during 1890.	Outstanding Dec. 31, 1890.
1. Payable from the sinking fund, under ordinances of the Common Council.....	\$4,509,400 00		\$325,400 00	\$4,268,000 00
2. Payable from the sinking fund, under provisions of chapter 484, section 6, Laws of 1878, and section 176, New York City Consolidation act of 1882.....	9,700,000 00			9,700,000 00
3. Payable from the sinking fund, under provisions of chapter 889, section 8, Laws of 1878, and section 192, New York City Consolidation act of 1882, as amended by chapter 178, Laws of 1889.....	27,577,785 66	\$5,518,294 87		88,091,080 53
4. Payable from the sinking fund, under provisions of chapter 79, Laws of 1889.....	9,057,000 00	660,000 00		9,747,000 00
5. Payable from the sinking fund, under provisions of the constitutional amendment adopted Nov. 4, 1884.....	22,700,000 00	2,675,000 00		25,375,000 00
6. Payable from taxation, under provisions of chapter 490, Laws of 1888.....	445,000 00			445,000 00
7. Payable from taxation, under the several statutes authorizing their issue.....	68,816,842 85		4,841,900 00	58,974,942 85
8. Bonds issued for local improvements, after June 9, 1880.....	8,823,000 00	2,300,000 00	1,950,000 00	4,173,000 00
9. Debt of the annexed territory of Westchester County.....	626,000 00		29,000 00	597,000 00
Total funded debt.....	\$141,889,028 01	\$11,178,294 87	\$6,646,300 00	\$146,371,022 88
TEMPORARY DEBT.—Revenue Bonds.				
1. Issued under special laws.....	104,587 41	207,188 00	104,587 41	207,188 00
2. Issued in anticipation of taxes of 1889.....	2,357,600 00		2,357,600 00	
3. Issued in anticipation of taxes of 1890.....		18,612,300 00	18,612,300 00	
Total amounts.....	\$144,301,215 42	\$20,997,682 87	\$27,720,687 41	\$146,567,210 88

Total funded debt.....	\$146,371,022 88
Less amount held by commission- ers of the sinking fund as investments.....	\$2,797,471 09
Cash.....	5,716,821 72
	48,518,792 81

Net funded debt, Dec. 31, 1890.....	\$97,857,230 07
Revenue bonds issued in anticipation of taxes of 1891.....	207,188 00

Debt, including revenue bonds..... \$98,064,418 07

Notwithstanding the issue of bonds during the year amounting to \$11,178,294.87 for permanent improvements, the net debt of the city has decreased nearly \$600,000. At the close of the year none of the revenue bonds issued in anticipation of the collection of the taxes for the year were outstanding. The revenue bonds issued aggregated the sum of \$18,612,200, and this amount was paid off before the close of the year out of the taxes collected; also, in addition, \$2,357,600 of the revenue bonds issued in anticipation of the taxes for the year 1889, and outstanding on Jan. 1, 1890, were redeemed and canceled. At the close of 1890 there was not outstanding a revenue bond of the city issued in anticipation of taxes of 1890, or any preceding year, a result that has not happened before within the past fifty years.

The Finance Department received \$67,726,854.43. Of this, \$32,490,008.45 came from taxes, \$2,130,492.61 from fees, fines, State school money, licenses, interest, rentals, sales, and unexpended balances. There was received \$3,608,208.20 on special and trust accounts, assessments, etc. Sales of stocks and bonds brought \$29,461,895.17. Of this amount, \$18,786.96 was received on revenue bonds. During the year \$36,250 was received from the Marine Bank, which was 5 per cent. of the amount on deposit. The total amount received from the bankrupt Marine Bank up to the present date is \$650,000, or 65 per cent. of the amount that was on deposit at the time of its failure.

The city's total expenditure was \$71,799,747.93. The general expenses, salaries, supplies, State

taxes, and interest on city debt were \$33,932,656.53, and on special and trust accounts, including revenue bonds, \$37,867,091.40 was paid out. The increased expenditure is due to the purchase of new parks. During the year the city redeemed stocks and bonds amounting to \$28,845,787.41, including revenue bonds.

The attorney for the collection of arrears of personal taxes reports that he has collected \$60,085.77, against \$22,053.57 collected in 1889.

The tax rate within the city during 1890 was 1.97 per cent. The rate per centum of taxation depends upon, first, the amount of the appropriations required to meet the expenditures necessary for the conduct of the government for the year; second, upon the aggregate of the assessed valuation of the estates, real and personal, subject to taxation in the city. The amount of the appropriations is made up by the Board of Estimate and Apportionment, pursuant to the powers conferred upon that board by law, and the amount of the valuations of the estates, real and personal, subject to taxation by the city is made up and determined by the Department of Taxes and Assessments.

In the Mayor's Marshal's office there was collected during the year \$35,163.33 for theatre licenses, and \$15,970.01 for concert licenses; total, \$51,133.34.

Board of Estimate and Apportionment.—This body, which includes the Mayor, the Comptroller, the President of the Board of Aldermen, and the President of the Department of Taxes and Assessment, allowed the following amounts for 1890:

Mayoralty, \$26,000; Common Council, \$76,800; Finance Department, \$297,500; State taxes, \$3,650,630.47; interest on city debt, \$5,151,293.41; redemption of principal of city debt, \$1,307,598.92; rents, \$131,322; armories and drill rooms—rents, \$42,050; armories and drill rooms—wages, \$54,400; judgments, \$750,000; Law Department, \$199,650; Department of Public Works, \$3,124,470; Department of Public Parks, \$931,500; Department of Street Improvement, Twenty-third

and Twenty-fourth Wards, \$260,200; Department of Public Charities and Correction, \$2,166,237; Health Department, \$419,400; Police Department, \$4,777,515.38; Department of Street Cleaning, \$1,584,250; Fire Department, \$2,145,568; Department of Taxes and Assessments, \$117,320; Board of Education, \$4,267,367; College of the City of New York, \$147,000; Normal College, \$125,000; advertising, printing, stationery, etc., \$247,200; Municipal Service Examining Boards, \$25,000; coroners, \$52,500; commissioners of accounts, \$27,500; sheriff, \$122,232; register, \$135,500; Bureau of Elections, \$439,300; preservation of public records, \$45,930; fund for street and park opening, \$215,508.16; salaries—city courts, \$303,700; salaries—judiciary, \$1,083,406.91; miscellaneous, \$183,816.10; asylums, reformatories, and charitable institutions, \$1,246,225.87; total, \$35,960,891.22. Deduct general fund, \$2,800,000. Grand total, \$33,160,891.22.

The total amount of the new budget is \$35,960,891.22, against \$35,148,097.55 for 1890. Of this amount, \$2,800,000 will come from the general fund, and the remainder, \$33,160,891.22, will be raised by taxation. Last year the general fund provided \$2,646,960.23, and \$32,501,137.32, was raised by taxation.

Law.—In the Corporation Counsel's office about 2,000 cases were disposed of, against 1,003 in 1889. In the Corporation Attorney's office about 19,050 actions were disposed of. The number of estates closed in 1890 in the Public Administrator's office was 184, and \$235,419.26 was collected. In commissions \$9,364.46 was paid into the city treasury, and \$316,565.68 was disbursed in the settlement of estates.

A synopsis of the work done in the Court of Common Pleas in 1890 shows that the General Term disposed of 366 appeals and wrote 232 opinions, while in the Trial Terms 536 cases were tried, and in the Equity Terms 665. The court naturalized 3,697 persons and granted 61 divorces. Schedules in 143 assignments were filed, the total liabilities amounting to \$35,039,805.48 and the total actual assets to \$15,361,814.09.

The City Court disposed of 1,674 calendar cases, 656 of the cases being tried by court and jury, 16 by the court, 150 being discontinued, and 103 dismissed, and 180 settled. In special term the marriage ceremony was performed 107 times, and 35 motions for changing names were granted.

There were 2,810 actions begun in the common-law branch of the United States circuit court in this city during 1890, and 987 of them were tried and disposed of. In the equity branch 184 suits were brought and 97 heard and disposed of. On appeal from the United States district court 23 cases were brought and 32 heard and disposed of; 43 appeals were taken to the United States Supreme Court. In the criminal branch 79 indictments were found and 81 tried and disposed of. There were 1,310 motions heard and disposed of. Seventy-two appeals from the Board of General Appraisers were taken under the new Customs Administrative act that went into effect in 1890.

Public Works.—Commissioner Thomas F. Gilroy reports that his expenditures were \$6,004,189.58, divided as follow:

Appropriation account, including liabilities ..	\$3,149,763 77
Repayments under act of 1889, including liabilities	967,500 18
Local improvements (assessment work)	1,553,147 88
Other accounts	501,777 80

Some 437 contracts were entered into, at a total cost of \$3,855,415.33, as follows:

68 sewer contracts	\$491,721 55
91 grading and flagging contracts	221,900 64
128 paving contracts	2,913,990 84
150 miscellaneous contracts	1,047,402 50

The contracts completed were 367 in number; total cost, \$3,130,768.22, divided thus:

51 sewer contracts	\$247,878 57
92 grading and flagging contracts	265,481 77
118 paving contracts	2,195,785 94
111 miscellaneous contracts	422,171 94

Concerning the water supply, there is now received daily in the city: Through the old aqueduct, 75,000,000 gallons; through the new aqueduct, 60,000,000 gallons; through the Bronx river conduit, 10,000,000 gallons; total, 145,000,000 gallons.

A contract for the building of a viaduct at 155th Street, connecting Eighth Avenue and McComb's Dam bridge, was made on July 14, and is to be completed in 500 working days.

Concerning the streets, the following statistics are given:

	GRANITE BLOCKS.	Sq. yds.
Payable by assessments		186,009
Repayments from appropriations		232,541

Total granite blocks

	TRAP BLOCKS.	Sq. yds.
Payable by assessments		4,190
Repayments from appropriations		889

Total trap blocks

	ASFHALT.	Sq. yds.
Payable by assessments		45,611
Repayments from appropriations		274,894

Total asphalt

The total area of pavements laid in 1890 was 743,634 square yards, covering 34.21 miles of streets, which is nearly three times the average quantity of pavement laid per year for the preceding six years.

	PRESENT LENGTH OF PAVED STREETS.	Miles.
Stone block, granite, and trap		321.27
Cobble		8.32
Asphalt		16.85
Macadam		24.24
Wood		0.08
Total		360.81

The extent to which the city's pavements are torn up by private individuals and corporations is shown by the fact that in 1890 they made 27,088 separate excavations for laying and repairing structures, conduits, gas and steam mains, and house connections; and that 53.72 miles of gas mains, 3.21 miles of car tracks, and over 1 mile of miscellaneous pipes were laid, and 49 miles of trench opened for electric subways.

In the extension and improvement of the sewerage system 21,970 lineal feet of new sewers and 39 receiving basins were built. There are now on Manhattan Island 487.89 miles of sewers, with 3,248 receiving basins. In the repairs and reconstruction of old sewers 2,608 lineal feet of sewers were rebuilt and 2,301 lineal feet repaired with new tile bottoms, 64,652 lineal feet of sew-

ers and 5,186 receiving basins were cleaned, and 13,426 cart-loads of sewer deposits removed.

During the year over 7 miles of new streets were provided with gas lamps. At the close of the year there were 27,114 gas lamps, 801 electric lights, and 138 naphtha lamps, lighting 512 miles of streets, docks, and bridges. 66 acres of public parks, and $3\frac{1}{4}$ acres of public markets. The several gas companies now have 1,274 miles of gas mains.

The Bureau of Incumbrances received and attended to 4,635 complaints of obstructions and made 3,735 seizures of stands, vehicles, and other articles obstructing streets and sidewalks. It also removed 1,104 cart-loads of abandoned materials, 312 dangerous shade trees, 1,505 telegraph poles, and about 3,660 miles of wire.

The 15 free floating baths were in use from the beginning of June to the end of September, and there was a total attendance of 2,344,609 males and 1,069,005 females.

Extensive repairs and improvements were made on the City Hall, the Hall of Records, several of the civil and police-court buildings, public markets, and armories.

The important event of the year in this department was the opening of the new aqueduct. This work was begun in 1885, in pursuance of the provisions of an act of the Legislature passed on June 1 of that year. At that time the facilities for supplying water to the city did not exceed 98,000,000 gallons a day, and with the growth of the city this amount of water became wholly insufficient for the health and comfort of its inhabitants as well as insufficient for the protection against fire. On July 15 the gates at 135th Street were opened and the water from the new aqueduct flowed into the reservoirs in Central Park, increasing the water supply to 145,000,000 gallons of water a day. New York now has a more bountiful and more healthful supply of water than that enjoyed by any other city in the world. According to the Mayor's message, this work has cost \$24,767,477.25. A description of its construction is given in the "Annual Cyclopædia" for 1887, page 555. See also "The New Croton Aqueduct, by Charles Barnard, in "The Century" for December, 1889.

Vital Statistics.—During 1890 the statistics were as follow:

ITEMS.	1890.	1889.
Deaths under one year.....	10,251	10,527
Deaths under five years.....	16,349	17,152
Total deaths.....	40,230	39,679
Total reported births.....	39,250	37,527
Total reported marriages.....	14,992	14,400
Total reported still-births.....	8,815	8,349
Death rate per 1,000 living.....	24.66	25.19

The principal causes of death were as follow: Phthisis, 5,468; pneumonia, 4,950; diarrhæal diseases, 3,339; Bright's disease, 2,397; heart disease, 1,966; bronchitis, 1,982; violence, 1,733; diphtheria, 1,256; measles, 724; croup, 521; whooping-cough, 486; scarlet fever, 403; typhoid fever, 350; malarial fever, 174; cerebro-spinal meningitis, 136; and small-pox, 2. Included in this list are six centenarians, two of whom were natives of the United States (both colored), one of Germany, and three of Ireland.

Of the 39,250 births, 20,190 were males and

19,110 were females, including 312 colored males and 301 colored females.

There were 14,776 white males and 14,787 white females married, and 216 colored males and 205 colored females. Of these, 13,187 males and 13,460 females had never before married, 1,770 men and 1,480 women had been previously married, and 36 men and 49 women failed to declare their previous condition in that regard.

The health officers inspected 15,867 tenements and dwellings, and the officers of the Bureau of Contagious Diseases vaccinated 88,701 persons. The summer corps of physicians visited 40,364 tenements, containing 321,012 families, and during their rounds discovered 20,894 persons who were sick and who were given medical aid. The health officers made 54,722 milk inspections, 63,437 inspections of fish, and 34,443 inspections of fruit, vegetables, and other articles, as a result of which they seized and destroyed 3,613 quarts of milk, 1,137,798 pounds of bad fish, and 1,030,896 pounds of spoiled fruit, vegetables, etc.

The sanitary squad of police made 183,052 inspections of tenements and buildings, resulting in 857 complaints of overcrowded tenements, 4,814 of filthy cellars, 271 dangerous chimneys, 219 noisy dogs, 357 cases of chickens kept without permits, 24 of cows, and 28 of goats.

The Bureau of Boiler Inspection caused inspections to be made of 6,885 boilers, of which 6,222 were tested and 77 condemned. The examinations of engineers numbered 6,201, and to 5,865 of these certificates were granted.

The estimated population of New York city on July 1, 1889, was 1,575,073; on July 1, 1890, 1,631,232.

Fire.—This department includes 1,030 officers and men, 56 engine companies, 21 hook-and-ladder companies, 90 engines, 2 fire boats, 37 hook-and-ladder trucks, and 368 horses.

There were 3,463 fires, of which 3,138 were confined to the points of starting and 183 to the buildings in which they started, while 50 extended to other buildings. The number of fires extinguished without engine stream was 2,367, and with a single stream 694. About 402 fires required more than one stream, while 1,182 fires resulted in nominal damages only. In 608 cases the buildings were not damaged, and in 670 were only slightly damaged. Fires involving "considerable damage" were 229.

The estimated aggregate losses were \$4,060,963, with insurance aggregating \$58,500,000. The average loss for each fire in 1888 was \$1,705.29; in 1889, \$1,451.03; and in 1890, \$1,172.64. The number of fire alarms during 1890 was 3,700.

The Bureau of Combustibles received for licenses, permits, and penalties, \$46,946.

The Bureau of Inspection of Buildings reports:

Applications for new buildings.....	2,000
Proposed new buildings.....	3,404
Estimated cost.....	\$72,656,562
Applications to alter, repair, etc.....	2,229
Buildings proposed to alter, etc.....	2,927
Estimated cost.....	\$6,050,065
Violations of law reported and acted upon.....	1,581
Buildings reported for fire-escapes.....	1,981
Buildings reported unsafe.....	865
Complaints investigated.....	2,739

The underground telegraph system now extends through subways, and subsidiary conduits

have been provided to connect fire-alarm stations and company houses through main subways with the central office, aggregating 465 miles of conductor in 45 miles of cables, connecting 213 alarm boxes, 37 apparatus houses, 8 school-houses, the repair shops, and the Central Park gate-house.

Police Department.—The present force includes 3,546 men and officers. The total number of arrests made was 84,931, of which 18,963 were females and 65,968 males. This is a decrease of over 1,000 females and an increase of nearly 4,000 males, compared with 1889.

The detective bureau is credited with a total of 1,359 arrests for various crimes, and 200 of these cases are still before the courts. The convictions from over 1,100 cases tried amounted to about 860 years of imprisonment, besides fines of \$1,160 imposed and collected. During the year over \$300,000 worth of stolen property was recovered by this bureau.

The station houses afforded lodgings for 147,677 homeless or destitute persons during the year, and the lost children's department at Police Headquarters shows a record of 3,278 cases, of which 2,107 were boys and 1,171 girls. Besides these there were brought to headquarters and turned over to the matron 175 foundlings—73 girls and 102 boys.

The property clerk received \$89,908.98 worth of property, all of which, except about \$5,000, was turned over to the owners. There was recovered and turned over to the rightful owners by the various precinct commanders in the city \$341,676.81 worth of property, the largest amount in one year on record.

The Special Department of the Superintendent issued permits for 1,142 parades, 245 funerals, 281 masked and other balls, and 621 for carrying pistols, the latter bringing in a revenue of \$1,552 for the Pension Fund.

The Telegraph Department handled 358,740 messages during the year, including 574 general orders, 1,227 alarms for missing persons, 1,700 fire messages, 33,729 for dead animals, and 202,327 general alarms. This work does not include nearly 20,000 messages by telephones.

Because of assertions and arguments that New York city had not been fairly treated by the United States officials in the taking of its census, and especially when the returns showed a population of only 1,513,501, a recount was made under the supervision of the Police Department. Enumeration books were placed in the hands of the captains of the police precincts, and certain men on the force were detailed to collect the information. As soon as the books were filled they were sent to Police Headquarters and transmitted unopened to the Mayor's office. The returns obtained showed the population to be 1,710,715, which amount agrees fairly with the estimated population as calculated by the Health Department from information at their disposal.

Electrical Control.—The work of removing the poles and overhead wires has been continued during the year, and whenever the companies have contested the right of the municipal government to compel the removal of these obstructions the city has been successful. The Board of Electrical Control constructed during the year for the reception of telegraph and telephone con-

ductors 178 miles of single duct in 9 miles of street trench, making a total construction of telephone and telegraph subways of 697 miles of duct in 38 miles of street trench. There have been constructed 132 miles of duct in 39 miles of street trench for electric-light conductors, making for electric-light service 647 miles of duct in 85 miles of street trench. There have been placed in the subways 10,150 miles of telephone and telegraph wire and 340 miles of wire for electric-light service. There are in the subways—telephone, telegraph, and electric-light wires—about 23,797 miles. There have been removed during the year, 1,361 poles and 18,949,645 feet of overhead wire.

Meteorological.—During 1890 the records of the Signal Service show that the temperature and rainfall have both been greatly in excess of the normal. The average precipitation for a year, reckoned on the records of the past twenty years, is 44 inches. During 1890 the precipitation was 53 inches, or 9 inches in excess. The average temperature for a year is about 48°, and during 1890 it was a trifle over 50° for the year, or an excess of over 2° over the normal. July 8 was the warmest day of the year, with a maximum temperature of 95°. March 7 was the coldest, with a maximum temperature of 6° above zero.

The highest velocity attained by the wind was on Jan. 23, when it blew at the rate of 55 miles an hour. The greatest range of temperature occurred between March 6 and 12, when the temperature rose from 6° to 71° in five days. September furnished the greatest rainfall, with a record of over 8 inches.

Education.—During the year J. Edward Simmons, President of the Board of Education, resigned from his office, and John L. N. Hunt was chosen his successor. Additional accommodations have been provided during 1890 for more than 15,000 children. There are now building school-houses that will accommodate 24,000 additional children. On Dec. 1, 1890, there were 228 schools, with 153,357 pupils and 3,509 teachers. The average daily attendance increased 4,000 in the past year. The manual training schools have been fostered until they number 37, with 430 teachers and 20,000 pupils, of whom 900 are taking special courses in cooking and 5,700 in sewing. An additional evening school was organized, and there are now in the evening schools 21,975 pupils, of whom 8,853 do not speak the English language. A course of nine lectures on popular, scientific, and historical subjects has been delivered at each of six schools, with a total attendance in November and December of 23,995.

Dock Department.—In accordance with the system adopted by this department for increasing the wharfage facilities in New York, 22 new piers are being extended and the wharfage facilities of New York will shortly be so increased that all the large Atlantic steamers can have ample accommodation. The revenue from this department during the year was \$1,513,269, enough to pay for the construction of 11 new piers—8 on the North river and 3 on the East river—besides extensive sections of sea-wall and twice as much bulkhead as has ever been built in any one year. The income in several cases from these improvements exceeds a quarter of their cost, and the average is more than 10 per cent.

Immigration.—On April 1, the handling of the immigrants arriving at this port was transferred from the State Commissioners of Immigration to Federal control at the Barge Office under the United States Superintendent of Immigration.

During the year 914 steamships brought to this port from Europe 99,189 cabin passengers and 371,593 steerage passengers. In 1889, 891 passenger steamships arrived at this port and brought 96,686 cabin passengers and 315,227 steerage passengers.

Hence, with the exception of 1883, this year shows the largest number of immigrants landed at New York.

The steamships that arrived from European ports are: 43 from the Baltic, 237 from Hamburg and Bremen, 62 from the Mediterranean, 305 from Liverpool and Queenstown, 26 from London, 97 from Glasgow and Moville, 50 from Rotterdam and Amsterdam, 55 from Antwerp, and 55 from Havre and Bordeaux.

The immigration during 1890 was principally from eastern Europe, and the report of the Commissioner of Immigration shows that there has been an immense increase of immigrants from Russia, Austria, and Italy, nearly all of whom went into the mining districts. The immigrants from British ports located themselves mainly in New England, Illinois, and San Francisco, and it is a remarkable feature in this immigration that fewer than ever of the immigrants settled in New York.

Judiciary Celebration.—The centennial celebration of the organization of the Supreme Court of the United States took place in New York City, on Feb. 4 and 5, 1890. An executive committee under the chairmanship of Grover Cleveland, aided by a committee on commemorative exercises, of which Robert Sewall was chairman; a judiciary centennial committee of the New York State Bar Association, of which William H. Arnoux was chairman; a co-operation committee of the American Bar Association, of which David Dudley Field was chairman; and a co-operating committee of the Bar Association of the City of New York, of which Frederick R. Coudert was chairman, arranged the exercises. The Chief Justice, with all the associate justices of the Supreme Court, came from Washington on a special train. They were to have been accompanied by the President of the United States and his Cabinet, but domestic bereavement in the families of the Secretary of the Navy and the Secretary of State, prevented the official participation of Mr. Harrison and his advisers in the celebration.

First Day.—The memorial exercises at the Metropolitan Opera House included an introductory address by Grover Cleveland as chairman of the executive committee; invocation by Morgan Dix, D. D.; address of welcome to the court by William H. Arnoux, as chairman of the Judiciary Centennial Committee of the New York State Bar Association; an address on "The Origin of the Supreme Court of the United States," by William Allen Butler; an address on "The Supreme Court and the Constitution," by Henry Hitchcock; an address on the "Personal Characters of the Chief Justices," by Thomas J. Semmes; an address on "The Supreme Court and the

Sovereignty of the People," by Edward T. Phelps. Response by the Court through Mr. Justice Field, who was introduced by the Chief Justice; and benediction by Talbot W. Chambers, D. D. The exercises were to have included an address by the President of the United States. In the evening a banquet was given at Lenox Lyceum by the New York State Bar Association, the American Bar Association, and the Association of the Bar of the City of New York. Upward of 800 persons were seated at the tables, and James C. Carter acted as toastmaster. The list of toasts and speakers was as follow:

1. "The President"—President Harrison (drunk in silence, owing to the absence of the President).
2. "The Supreme Court"—John M. Harlan, Associate Justice of the Supreme Court.
3. "The Congress"—William M. Evarts, United States Senator, New York.
4. "The Judiciary of the States"—Edward M. Paxson, of the Supreme Court of Pennsylvania.
5. "The Common Law"—Walter B. Hill, of Georgia.
6. "The Bar"—Joseph H. Choate, of New York.
7. "The Clergy"—Rev. William R. Huntington, of New York.
8. "The University"—President Seth Low, of Columbia College.
9. "Our Clients"—Hon. Chauncey M. Depew, of New York.

Second Day.—No programme of entertainment was provided for during the daytime, but after the judges of the Supreme Court had been photographed in a group they spent the day in visiting their friends. In the evening a reception was tendered the visiting guests by the Association of the Bar of the City of New York at their rooms, No. 7 West Twenty-ninth Street. The attendance was very large, and, from the opportunities offered to the members of the New York bar to meet and commune with Mr. Fuller and the members of the Supreme Court, the occasion was perhaps the most pleasant incident of the celebration.

Memorial Arch.—The desire in some way to record permanently the celebration of the hundredth anniversary of the inauguration of George Washington as first President of the United States led to the collection of funds for the building of a stone memorial arch to be erected on the north side of Washington Square, facing Fifth Avenue. Stanford White was intrusted with the preparation of the design, and when \$75,000 had been collected it was decided to proceed with its construction. Memorial Day, May 30, was chosen as the time for the laying of the corner-stone. On that day the Arch Committee, of which Henry G. Marquand is chairman, were escorted to the site by the First Brigade of the State National Guard, under the command of Gen. Louis Fitzgerald, and the exercises began with a prayer by the Bishop of New York, the Right Rev. Henry C. Potter, attired in his ecclesiastical robes. A hymn composed for the occasion by Robert U. Johnson and arranged for the music of Haydn's Austrian National Anthem was sung by a mixed chorus led by Frank H. Damrosch. Mr. Henry G. Marquand followed with a brief address in which he referred to the site as one that would "bring the rich and poor together in one common bond of patriotic feeling." The custody of the arch was accepted

by Waldo Hutchins, President of the Park Board, and then the chorus sang "Star Spangled Banner," in which the voices of the multitude joined. George William Curtis was the orator of the occasion. He spoke of Memorial Day, recalling memories of American soldiers from Bunker Hill to Appomattox, then passed to the fitness of this city as an historical spot for a memorial to Washington, and closed with a tribute to the greatness of the influence of the greatest of our early American heroes. He said: "Whatever may betide, whatever war, foreign or domestic, may threaten, whatever specious sophistry may assail the political conscience of the country, or bribery of place or money corrupt its political action, above the roar of the mob and the insidious clamor of the demagogue, the voice of Washington will still be the voice of American patriotism and of manly honor."

The corner-stone was laid with Masonic ceremonies by John W. Vrooman, grand master of the Grand Lodge of the State of New York, including the reading of a few verses from the page of the Bible on which Washington's hand is said to have rested when he took the oath of office, and a prayer by the Rev. Robert Collyer. A brief address by Grand Master Vrooman, with the singing of "America" by the chorus, completed the ceremonies. The fund on that day reached the sum of \$82,999.98.

Holley Memorial.—During the week beginning Sept. 29 a joint meeting of the British Iron and Steel Institute of London and the American Institute of Mining Engineers was held in New York. At the close of the meeting a memorial bronze bust of Alexander Lyman Holley, modeled by J. Q. A. Ward, was unveiled in Washington Square. A eulogy on Mr. Holley was delivered at Chickering Hall by James Dredge, editor of the London "Engineering," after which the two societies marched to the square, where James C. Baylis, as chairman of a committee representing the American Institute of Mining Engineers, the American Society of Mechanical Engineers, and the American Society of Civil Engineers (through which organizations the money to build the memorial had been raised), formally presented the memorial to the city in a brief address. The monument was accepted for the city by Albert Gallup, President of the Department of Public Parks, who said: "It is indeed fitting that in this country where genius and invention are triumphant our citizens should turn aside now and then from their labors to pay just tribute to those who have made her great. Among them truly was he who has been so honored to-day, as one of the greatest of engineers, and of whom it can be well said, borrowing the words from another, that he ever strove to hide his light under a bushel, yet it was ever the strongest and brightest light that burned. I would that all our parks and squares might contain such object lessons as this, not alone because of the art that fashioned it, but because of the energy, enthusiasm, intensity of purpose, great honor, and great achievements of him whom it calls to mind."

Historical Landmarks.—The preservation of historical landmarks by the erection of brass plates has been undertaken by the Holland Society, and in September the first of these was

fastened to the front of No. 4 Bowling Green. It bears the following inscription:

The site of
FORT AMSTERDAM,
built in 1626.
Within the fortification
was erected the first
substantial church edifice
on the Island of Manhattan
in 1787. The fort
was demolished
and the Government house built upon this site.
This tablet is placed here by
THE HOLLAND SOCIETY,
Sept., 1890.

Another plate was put up at the corner of Pearl and Broad Streets to mark the site of Fraunces's tavern, the first Chamber of Commerce, and the spot where George Washington bade farewell to his Generals in 1783. Another was placed at Thirteenth Street and Third Avenue, where Peter Stuyvesant's pear tree stood. Other plates are to be put up at No. 45 Broadway, to mark the site of the habitations of the first white men on Manhattan Island; at No. 73 Pearl Street, to mark the site of the first Dutch house of entertainment, afterward the Stadthuys or City Hall; at the Mills Building corner, the spot where the merchants first formally met in exchange and barter; at the northeast corner of Cedar and Nassau Streets, to mark the site of the old Middle Dutch Church; and at No. 115 Broadway, to preserve the location of the historic De Lancey house, afterward successively the Province Arms, the City Arms, and the Burns coffee house and tavern, where, on Oct. 31, 1765, the first agreement against the Stamp Act was signed.

The tablets are of solid brass, of good proportions, and bear brief inscriptions explanatory of the event to be commemorated. They are 3 feet long by 2 feet wide, weigh about 200 pounds, and cost about \$300 each.

Post-Office.—The total number of pieces of mail matter of all kinds handled during the year was 1,024,198,721, a daily average of 3,113,066, and an increase over the previous year of 135,110,258. There were delivered through lock boxes and by carriers 343,497,329 pieces of ordinary mail matter, divided as follows: Letters—through boxes, 57,146,060; by carriers, 170,118,702. Postal cards—through boxes, 6,660,856; by carriers, 35,070,828. Other mail matter—through boxes, 34,114,940; by carriers, 40,385,943. In the registered-letter department 1,435,633 pieces were delivered, and 1,248,359 of domestic, and 484,348 of foreign origin were recorded and distributed to other offices. In the distribution department a total of 677,533,052 pieces were handled, divided as follow: Letters—of local origin, 225,430,486; received by mail, 34,855,675; foreign dispatched, 24,808,981. Postal cards—of local origin, 34,681,612; received by mail, 8,713,919; foreign dispatched, 1,181,380. Other matter—of local origin, 250,761,527; received by mail, 53,849,060; foreign dispatched, 43,250,412. The aggregate business of the money-order department for the year amounted to \$101,334,178.28, giving an increase in the business over the previous year of \$10,329,924.73. The total receipts of the office were \$6,267,278.24, and the total expenditures 2,370,805.90 (including \$1,073,268.58

expended for free-delivery service), giving a net revenue of \$3,896,472.25. There were sold during the year 228,458,243 postage stamps, 43,943,615 Government stamped envelopes, and 51,908,875 postal cards. The total weight of mails received and dispatched daily during 1890 was 332 tons.

Wealth of the City.—According to law, the first Monday in July is fixed for the aldermen to receive the tax rolls. This year it was found that the assessed value of the city's real estate is \$1,398,290,007, an increase of \$66,711,716 over last year. The total personal estate is placed at \$298,688,383, an increase of \$26,427,561. The total of the real and personal estate of the city is \$1,696,978,390, an increase for one year of \$93,139,277.

In detail the rolls are as follow :

WARDS.	Assessed valuation, 1890.
	Real estate.
First.....	\$4,544,598
Second.....	35,650,550
Third.....	39,605,570
Fourth.....	14,076,508
Fifth.....	47,629,220
Sixth.....	25,812,300
Seventh.....	20,175,857
Eighth.....	40,158,088
Ninth.....	32,521,090
Tenth.....	20,791,132
Eleventh.....	20,400,587
Twelfth.....	308,203,135
Thirteenth.....	18,263,229
Fourteenth.....	25,796,092
Fifteenth.....	59,174,880
Sixteenth.....	40,698,485
Seventeenth.....	41,022,808
Eighteenth.....	82,189,600
Nineteenth.....	225,647,570
Twentieth.....	49,587,900
Twenty-first.....	95,569,900
Twenty-second.....	183,512,399
Twenty-third.....	28,559,831
Twenty-fourth.....	13,836,708
Total.....	\$1,398,290,007
PERSONAL ESTATE.	
Resident.....	\$217,439,160
Non-resident.....	11,740,041
Shareholders and banks.....	69,509,182
Total personal estate.....	\$298,688,383
Total real and personal property for 1890.....	\$1,696,978,390
Increase over 1889.....	93,139,277
PERSONAL ESTATE OF RESIDENT CORPORATIONS.	
	1890.
Insurance companies.....	\$2,922,220
Trust companies.....	9,213,341
Railroad companies.....	82,553,779
Miscellaneous.....	58,429,700
Total.....	\$104,896,140

Castle Garden.—At noon on Dec. 31 the Comptroller of the City of New York, acting under instructions from the Sinking Fund Commission, representing the City of New York, received from the State Board of Emigration the keys of Castle Garden, and that historic pile of masonry, with its many annexes, became city property.

In the year 1847 the Legislature of New York established, on May 5, the State Board of Emigration. In 1854 Castle Garden was secured as a general landing-place for immigrants, the lease being executed on May 1, and it was formally opened on Aug. 1, 1855. From that date till May 19, 1890, the Garden was used solely for immigrants.

During this time the names of 9,720,667 immigrants were recorded upon its books. These books have all been preserved and are now safely stored in the commissioners' buildings on Ward's Island. Of these people 3,000,000 were Irish, 3,000,000 German, and the remainder divided among all other nationalities. During the first ten years nearly all immigrants were Irish, and most of them remained in the city.

Castle Garden was built for a fortress in 1807, and was intended to guard the outlets of both the North and East rivers. But it was never equipped as a place of defense. It remained for years a sort of curiosity, as it was built out in the water quite a distance from the shore, with which it was connected by a bridge. This bridge was designed to be hoisted from the castle, thus cutting the fort off from shore communication.

About 1850 it was fitted up with seats and converted into a concert hall. At this time the American Institute held its annual fairs there. In 1852, when P. T. Barnum brought Jenny Lind, the famous singer, to this country, he secured Castle Garden in which to introduce her to the American public. It continued as a place of amusement until 1854.

Political.—The election of 1890 was held on Nov. 4, when the following local candidates were voted for :

Tammany.—Mayor, Hugh J. Grant; Comptroller, Theodore W. Myers; Sheriff, John J. Gorman; County Clerk, L. A. Giegerich; District Attorney, DeLancey Nicoll; Coroner, M. J. B. Messemer; Judges of Superior Court, David McAdam, J. J. Freedman; Judges of City Court, James M. Fitzsimons, J. E. Newberger; President Board of Aldermen, J. H. V. Arnold.

People's Municipal League.—Mayor, Francis M. Scott; Comptroller, Theodore W. Myers; Sheriff, William H. Corsa; County Clerk, William H. Bellamy; District Attorney, John W. Goff; Coroner, M. G. Ræffe; Judges of Superior Court, J. J. Freedman, James M. Varnum; Judges of City Court, Abner C. Thomas, Donald McLean; President Board of Aldermen, James W. Hawes.

Prohibition.—Mayor, William Jennings Demorest; Comptroller, William Wardwell; Sheriff, John McMullen; County Clerk, Jeremiah T. Brooks; District Attorney, Charles E. Manierre; Coroner, George G. Needham; Judges of Superior Court, Coleridge A. Hart, James H. Laird; Judges of City Court, Herbert A. Lee, Henry H. Hadley; President Board of Aldermen, France M. Hammond.

Socialist Labor.—Mayor, August Delabar; Comptroller, August Waldinger; Sheriff, Ernest Bohm; County Clerk, Charles F. Wilson; District Attorney, Edward J. Thimme; Coroner, George C. Stiebeling; Judges of Superior Court, William N. Reed, Henry Foth; Judges of City Court, Robert J. Victor, Benjamin J. Gretsck; President Board of Aldermen, James A. Bostwick.

Commonwealth.—Mayor, James Redpath; Comptroller, George K. Lloyd; Sheriff, Hugh Greenan; County Clerk, James Hurley; District Attorney, Augustus A. Levey; Coroner, Edward B. Foote; Judges of Superior Court, Thaddeus B. Wakeman, Thomas H. Ronayne; Judges of City Court, Edward W. Chamberlain, Titus Merritt; President Board of Aldermen, Robert Hamilton.

Citizens' Improvement Party.—Sheriff, Gabriel Marks.

Also for Judge of the Court of Appeals, Robert Earl, Republican and Democrat; Silas W. Mason, Prohibition; Francis Gerau, Socialist Labor.

For the first time the new ballot law was enforced and the Tammany society again succeeded in electing every one of its nominees by majorities of 20,000 and upward. A feature of the canvass was the organization of the People's Municipal League, whose ticket received the approval of the Republican party and of the County Democracy.

Other political events in the local history during the year were: The resignation, on Feb. 4, of Richard Croker from the place of city chamberlain, with the subsequent appointment of Thomas C. T. Crain to that office; the resignation of James A. Flack, on March 26, from the office of sheriff, to which Gen. Daniel E. Sickles was appointed on March 28; the appointment of Patrick J. Scully, on Oct. 20, to the office of county clerk, made vacant by the death of Edward F. Reilly on Sept. 28.

The Board of Aldermen chosen is composed of 25 members, exclusive of the president, of which 19 are adherents of Tammany Hall, 3 are County Democrats, 2 Republicans and 1 Ind. Democrat.

NICARAGUA, a republic in Central America. The Constitution of Aug. 9, 1858, vests the legislative authority in a Senate, which consists of 18 members, and a Legislative Assembly, which has 21 members, elected by the suffrage of the nation for six and four years respectively. The presidential term is four years. The President is Dr. Roberto Sacasa, who succeeded on the death of Evarista Carajo in August, 1889, as acting President till March 1, 1891, and in October, 1890, was elected for the full term ending March 1, 1895. The members of his Cabinet are Benjamin Guerra, Minister of Foreign Affairs and Public Instruction; F. Paniagua, Minister of War and Marine; J. F. Medina, Minister of Communications and Public Works; Dr. Delgadillo, Minister of the Interior.

Statistics.—According to a recent calculation, the area of the republic is 123,950 square kilometres, or 47,442 square miles. The population at the end of 1888 was 282,845, of whom 136,239 were of the male, and 146,596 of the female sex. Not included in this enumeration are the uncivilized Indians, numbering about 30,000. Managua, the capital, has about 16,000 inhabitants.

The two railroads, connecting Corinto with Momotombo and Managua with Granada, have a total length of 95 square miles. They and the customs revenues are mortgaged for the 6-per-cent. loan of £285,000 raised in London in 1886. Beyond this loan the amount of the public debt, according to an official statement, is \$1,592,000. The chief exports of the country are coffee and India-rubber. The cultivation of bananas has been introduced on a large scale, and considerable quantities of the fruit are sent to the United States. Of the total exports, a little less than half go to Germany, France, and the United States in nearly equal proportions, and the rest mainly to Great Britain. Germany furnishes more than one third of the imports, the United States over one fifth, France less than one sixth, and England one eighth.

The Nicaragua Canal.—A treaty to permit the construction of an interoceanic canal across the territory of Nicaragua was signed between the United States and the Republic of Nicaragua Dec. 1, 1884; but this treaty was not ratified within the stipulated period of two years. The American Atlantic and Pacific Ship Canal Company, organized in 1886, obtained the exclusive right to build a canal and to own and manage it for eighty-five years from the time of its completion. Nothing but preliminary work was done by this company, and in 1887 the Nicaraguan Government declared its charter invalid. A new concession was issued to the Maritime Ship Canal Company of Nicaragua, which was incorporated in the United States by an act of Congress approved Feb. 20, 1889. This company engaged to complete the canal before 1900. It began operations, and, according to the report of the Nicaraguan Minister of Public Works, made in November, 1890, it has more than fulfilled the requirements of its charter, having expended during the preceding year more than \$3,000,000. The pier at San Juan del Norte had been extended 700 feet, and a depth of 10 feet of water secured where there had been dry land in May. Six dredges bought from the Panama Canal Company, and much other machinery, were on the spot, besides 2 large suction dredges from Charleston, and 2 of the dredges were engaged in deepening the channel to allow the regular steamers from New York to enter and discharge in the harbor. The route of the canal had been cleared of timber as far as the divide cut, 10 miles of railway were completed, the trestle bridge across the harbor was nearly finished, and the machine shop, equipped with the best modern tools and machinery, was rapidly approaching completion. The right of way from Lake Nicaragua to the Pacific had been acquired and paid for, the work of clearing the route on that side was already begun, and a party of engineers were engaged in surveying the route for the railroad there. There were 1,500 men employed on the ship-canal works at the time, whose general health, according to the report of the chief surgeon in charge, showed a most satisfactory operation of the sanitary service, no deaths having occurred from climatic or enteric fevers or other similar disorders.

NORTH CAROLINA, a Southern State, one of the original thirteen, ratified the Constitution Nov. 21, 1789; area, 52,250 square miles. The population, according to each decennial census, was 393,751 in 1790; 478,103 in 1800; 555,500 in 1810; 638,829 in 1820; 737,987 in 1830; 753,419 in 1840; 869,039 in 1850; 992,622 in 1860; 1,071,361 in 1870; 1,399,750 in 1880; and 1,617,947 in 1890. Capital, Raleigh.

Government.—The following were the State officers during the year: Governor, Daniel G. Fowle, Democrat; Lieutenant-Governor, Thomas M. Holt; Secretary of State, William L. Saunders; Treasurer, Donald W. Bain; Auditor, George W. Sanderlin; Attorney-General, Theodore F. Davidson; Superintendent of Public Instruction, Sidney M. Finger; Commissioner of Agriculture, John Robinson; Chief Justice of the Supreme Court, Augustus S. Merrimon; Associates, Joseph J. Davis, James E. Shepherd, Alphonse C. Avery, and Walter Clark.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Alamance	14,618	18,271	8,458
Alexander	8,855	9,430	1,075
Alli-gany	5,486	6,523	1,037
Anson	17,994	20,927	2,033
Ashe	14,437	15,625	1,191
Beaufort	17,474	21,072	8,598
Bertie	16,399	19,176	2,777
Bladen	16,158	16,763	605
Brunswick	9,969	10,900	1,311
Buncombe	21,909	25,266	18,357
Burke	12,869	14,839	2,130
Cabarrus	10,261	13,142	3,178
Caldwell	10,991	12,298	2,007
Camden	6,274	5,667	• 607
Carteret	9,784	10,825	1,041
Caswell	17,825	16,028	• 1,797
Catawba	14,946	18,689	8,748
Chatham	23,453	25,413	1,960
Cherokee	8,182	9,976	1,794
Chowan	7,900	9,167	1,267
Clay	8,316	4,197	• 81
Cleveland	16,571	20,394	3,823
Columbus	14,489	17,536	8,417
Craven	19,729	20,533	804
Cumberland	20,816	27,821	8,485
Currituck	6,476	6,747	271
Dare	8,248	8,768	525
Davidson	20,383	21,762	1,869
Davie	11,696	11,621	• 525
DeWitt	18,000	18,000	• 83
Duplin	18,773	18,041	18,041
Durham	20,151	24,113	• 2,068
Edgecombe	20,181	28,494	10,364
Forsyth	18,070	28,494	10,364
Franklin	20,829	21,090	261
Gaston	14,254	17,764	3,510
Gates	8,897	10,252	1,355
Graham	2,335	8,913	978
Granville	81,286	24,484	• 6,802
Greene	10,067	10,039	• 2
Guilford	22,565	28,032	4,467
Halifax	30,900	32,908	• 1,992
Harnett	19,862	13,700	2,838
Haywood	10,271	18,346	8,075
Henderson	10,281	12,589	2,308
Hertford	11,848	13,581	2,008
Hyde	7,765	8,903	1,138
Iredell	22,675	25,462	2,787
Jackson	7,843	9,512	2,169
Johnston	23,461	27,239	3,778
Jones	7,491	7,491	• 83
Lenoir	15,344	14,879	• 465
Lincoln	11,061	12,385	1,325
Macon	8,064	10,162	2,098
Madison	12,810	17,805	4,995
Martin	13,140	15,221	2,081
McDowell	9,836	10,939	1,103
Mecklenburg	84,175	42,673	8,498
Mitchell	9,485	12,807	3,322
Montgomery	9,374	11,289	1,915
Noore	16,821	20,479	3,658
Nash	17,731	20,707	2,976
New Hanover	21,376	24,026	2,650
Northampton	20,332	21,212	1,210
Onslow	9,829	10,363	474
Orange	23,698	14,948	• 8,750
Pamlico	6,324	7,136	812
Pasquotank	10,869	10,748	879
Pender	12,468	12,514	46
Perquimans	9,466	9,248	• 178
Person	18,719	15,151	1,432
Pitt	21,734	25,519	3,785
Polk	7,072	7,992	840
Randolph	20,836	25,195	4,359
Richmond	18,245	23,948	5,703
Robeson	23,880	31,483	7,603
Rockingham	21,744	25,363	8,619
Rowan	19,965	24,128	4,163
Rutherford	15,198	18,770	3,572
Sampson	12,294	12,096	2,202
Stanley	15,563	12,136	1,631
Stokes	15,563	17,199	1,846
Surry	15,562	19,281	3,719
Swain	3,784	6,577	2,793
Transylvania	5,810	5,881	741
Tyrrell	4,515	4,225	• 329

COUNTIES.	1880.	1890.	Increase.
Union	18,056	21,259	8,303
Vance	17,581	17,581	17,581
Wake	47,389	49,237	1,848
Warren	22,619	19,860	• 8,259
Washington	8,928	10,260	1,272
Watauga	8,160	10,611	2,451
Wayne	24,951	25,170	1,149
Wilkes	19,181	22,675	3,494
Wilson	16,064	18,644	2,580
Yadkin	12,421	18,790	1,370
Yancey	7,694	9,490	1,796
Total.	1,899,750	1,617,947	218,197

* Decrease.

Finances.—The time within which holders of State bonds other than railroad-construction bonds would be permitted to avail themselves of the provisions of the Funding act, so-called, expired on July 1. Up to that time, all except \$1,570,000 of old bonds had been surrendered and exchanged for the new issue authorized by the act. Including these new bonds, the total recognized State debt amounted, on July 1, to \$5,939,131, of which \$3,219,100 bear 4 per cent. interest and \$2,720,000 bear 6 per cent. interest. The interest on the 6-per-cent. bonds, now recognized as valid, is more than met by the income that the State receives from the lease of the North Carolina Railroad. The receipts of the treasury for the fiscal year 1890 were \$976,761.31, the disbursements, \$1,183,303.76. The balance at the close of the year was \$34,408.97.

County Debts.—The total debt of North Carolina counties is \$1,521,086, a decrease of \$3,568 in ten years. Of this total all except \$201,220 is a bonded debt. One third of the counties have no debt.

Education.—The annual report of the State Superintendent of Public Instruction for 1890 presents the following figures: Children of school age, 588,688, of whom about 372,000 were white and about 216,000 colored; number enrolled in the public schools, white 205,844, colored 116,689, total 322,533; average attendance, white 134,000, colored 69,000, total 203,000; number of school districts for white pupils 4,893, for colored pupils 2,289, total 7,182; number of schools for white pupils 4,508, for colored pupils 2,327, total 6,835. The average school year was sixty days, being three days less than in 1888, and the total amount expended for schools during the year was \$718,225. The Superintendent remarks that it is idle to expect satisfactory schools with school terms of sixty days and an expenditure of only \$1.22 for each child of school age.

The State Agricultural and Mechanical College, which was opened in 1889, had 73 pupils on its rolls for that year. During 1890 the number in attendance was 85, nearly three fourths of whom were the sons of farmers. The property of the institution is valued at \$55,000. As the State does not provide a similar institution for colored pupils, it can not obtain the annual appropriation authorized by Congress in aid of agricultural colleges.

Charities.—At the State Insane Asylum, at Raleigh, the number of patients on Nov. 30, 1888, was 292. During the two years following 168 patients were admitted and 166 discharged, leaving 294 patients on Nov. 30, 1890. Forty-three

applicants were rejected for want of room. The yearly allowance to the institution is \$52,500. It is estimated that there are over 800 insane persons in the State outside of the asylum.

At the State Institution for the Deaf, Dumb, and Blind there were 293 pupils on Nov. 30, an increase of 100 since 1883. The annual appropriation for the institution has been \$40,000. Not half of the deaf, dumb, and blind children of the State can be accommodated.

Penitentiary.—At the close of the fiscal year 1890 there were 1,302 convicts remaining in the State Penitentiary, of whom 217 were white males, 7 white females, 1,034 colored males, 42 colored females, and 2 Indians. The receipts for the year were \$202,300.46, and the disbursements \$113,069.98, leaving a balance of \$89,230.48. As the railroad work on which the convicts have been employed is not permanent, the directors have sought to provide means by which the prisoners might, if necessary, be employed within the walls of the Penitentiary. They have expended \$23,780 in completing the western wing of the building, and recommend the employment of male prisoners therein in the manufacture of tobacco and jute bagging. Having no adequate employment for women, boys, and convicts unfit for railroad work, the directors placed a force of 200 of these on a farm on the Roanoke which they leased.

Militia.—The State Guard consists of 4 regiments, 1 troop of cavalry, and 1 colored company, a total of 1,505 officers and men, fully uniformed and equipped. The presence of a single company of the Guard at Rocky Mount this year during a disturbance saved, in the opinion of the Governor, more property than the entire Guard had cost the State.

Criminal Statistics.—Under an act of the Legislature of 1889, which provides for the collection of statistics of crime by the Attorney-General, the following report was made by that official early this year:

There were tried in 1889 7,695 criminal cases. The race of the offenders was 4,409 whites, 3,279 blacks, and 7 Indians. There were 6,848 males and 849 females. For the 4 capital offenses of rape, murder, arson, and burglary 114 persons were tried. The division of these was as follows: For rape, 18; murder, 59; arson, 6; and burglary, 31. There were 9 convictions of capital crimes, divided as follow: For burglary, 2; arson, 1; murder, 5; and rape, 1. Of the 9 criminals condemned 2 were executed, the others having appealed. There were 1,227 trials for larceny, the crime which furnishes the great proportion of the convict population. For misdemeanors, which include a variety of crimes, 6,334 persons were tried.

Railroads.—In 1888 there were 51 railroad companies in the State, operating 2,550 miles of road and owning property assessed at \$10,287,000. At the close of this year the number of companies had increased to 59, the length of road in operation to 3,100 miles, and the property assessed to \$13,674,164.

Pensioners.—Under the act of 1889 making liberal provision for pensioning disabled Confederate soldiers and their widows, the sum of \$87,496 was disbursed during this year to 4,051 pensioners, of whom 2,522 were widows. This sum was raised by a State tax of 3 cents on each \$100, and of 9 cents on each taxable poll.

Political.—The only State officers to be chosen this year on a general ticket were 2 justices of the Supreme Court. The Democratic State Convention met at Raleigh on Aug. 20, and nominated Justices Merrimon and Clark for reelection. The platform adopted is substantially a reaffirmation of the principles of the Farmers' Alliance, whose members were in a majority in the convention. (See FARMERS' ALLIANCE).

On Aug. 26, a few days prior to the Republican State Convention, a conference of negroes met at Raleigh, at which the political standing of the race and its treatment by the Republican party were plainly discussed. Resolutions were adopted, which, briefly summarized, reaffirm allegiance to the Republican party, and ask that the negro race receive proper recognition in the distribution of patronage; commend Harrison's administration on all national questions; condemn the self-appointed white bosses who go to Washington and make representations that the negro, no matter whether he is recognized or not, will support the Republican party; call for a committee to go to Washington to lay the grievances of the North Carolina negroes before the President; ask for the establishment of a negro school of technology in the South; approve the Morrill Educational bill; condemn the State election law and jury system; approve the plan of a Southern exposition in some of the Northern cities, and commend Senator Blair for his work for the Blair bill.

At the Republican State Convention, on Aug. 28, the differences between the white and colored leaders again appeared, but a satisfactory judicial ticket containing the names of Charles Price and W. T. Faircloth was nominated.

The platform deplores the failure of Congress to pass the Blair Education bill, denounces the election law passed by the Legislature of 1889 as an attempt to thwart the will of the people, demands free elections, sympathizes with the efforts of the farmers to throw off the yoke of Bourbonism, and also contains the following:

We demand that our elections shall be free, that all citizens eligible to vote under our national and State Constitutions shall have the right to vote as they may see fit, their ballots counted as cast, and a true return thereof made, and while we prefer that the election of all officers should be had under one and the same law, yet we recognize the fact that the Democratic party has instituted a system of fraud through the medium of their State laws to defeat the will of the people in the selection of their representatives in Congress, and, therefore, indorse such legislation as may be enacted by Congress as will secure a free vote, fair count, and honest return, and thereby the prompt seating in Congress of the honestly elected member.

At the November election the vote was: Merrimon, 142,316; Price, 99,987; Clark, 142,348; Faircloth, 100,772. Members of the State Legislature were chosen at the same time as follow: Senate, Democrats 43, Republicans 7; House, Democrats 102, Republicans 17, Independent 1. In the congressional districts 1 Republican and 8 Democratic Congressmen were elected, a gain of 1 seat by the Democrats.

NORTH DAKOTA. a Northwestern State, admitted to the Union Nov. 3, 1889; area, 70,795 square miles; population, according to the census of 1890, 182,719. Capital, Bismarck.

Government.—The following were the State officers during the year: Governor, John Miller, Republican; Lieutenant-Governor, Alfred Dick-ey; Secretary of State, John Flittie; Auditor, John P. Bray; Treasurer, L. E. Booker; Attorney-General, George F. Goodwin; Superintendent of Public Instruction, William Mitchell, who died on March 10 and was succeeded by W. J. Clapp; Insurance Commissioner, A. L. Cary; Commissioner of Agriculture and Labor, H. T. Helgesen; Railroad Commissioners, F. S. Underhill, David Bartlett, George S. Montgomery, Chief Justice of the Supreme Court, Guy C. H. Corliss; Associate Justices, Alfred Wallin and J. N. Bartholomew.

Population.—The following table shows the population of the State by counties, as determined by the national census of this year, compared with the population in 1880 of Dakota counties that are now included in the State limits:

COUNTIES.	1880.	1890.	Increase.
Allard *	.....	.....	.....
Barnes	1,585	7,045	5,460
Benson .....	.....	2,460	2,460
Billings	1,928	170	† 1,153
Boreman * .....	.....	511	511
Bottineau .....	.....	2,393	2,393
Bowman .....	.....	6	6
Buford .....	.....	803	803
Burleigh	3,246	4,252	1,006
Cass	8,998	19,613	10,615
Cavalier .....	.....	6,471	6,471
Church *	.....	.....	.....
Dickey .....	.....	5,573	5,573
Dunn .....	.....	159	159
Eddy .....	.....	1,377	1,377
Emmons	48	1,971	1,383
Flannery .....	.....	72	72
Foster	37	1,210	1,173
Gardfield .....	.....	83	83
Grand Forks	6,248	18,357	12,109
Griggs .....	.....	2,817	2,817
Hettinger .....	.....	81	81
Kidder	89	1,211	1,122
La Moure	20	8,187	8,167
Logan .....	.....	797	797
McHenry .....	.....	1,658	1,658
McIntosh .....	.....	8,248	8,248
McKenzie .....	.....	3	3
McLean .....	.....	860	860
Mercer .....	.....	428	428
Morton	200	4,725	4,525
Mountrail	13	122	109
Nelson .....	.....	4,293	4,293
Oliver .....	.....	464	464
Pembina	4,862	14,384	9,472
Pierce .....	.....	905	905
Ramsey	251	4,418	4,187
Ransom	737	5,363	4,563
Renville .....	.....	99	99
Richland	3,597	10,751	7,154
Rolette .....	.....	2,427	2,427
Sargent .....	.....	5,076	5,076
Shrader *	.....	.....	.....
Stark .....	.....	2,304	2,304
Steele .....	.....	3,777	3,777
Stevens	247	16	+ 231
Stevesman	1,067	5,266	4,259
Towner .....	.....	1,450	1,450
Trail	4,123	10,217	6,094
Wallace .....	.....	24	24
Wallette	432	.....	+ 432
Walsh .....	.....	16,587	16,587
Ward .....	.....	1,681	1,681
Webb .....	.....	1,212	1,212
Williams	14	109	95
Total	86,909	182,719	145,810

* No returns.

† Decrease.

‡ Unorganized, formerly part of Boreman county, Dakota.

Finances.—The State debt consists of Territorial liabilities amounting to \$559,807.46, which the State has agreed to assume, and of \$150,000

in bonds, issued this year to supply deficiencies, making the total \$689,807.46. The revenue deficiency bonds bear 4½ per cent. interest, and were sold at a premium of \$17,425. The State debt is limited by the Constitution to \$200,000, in addition to the Territorial liabilities assumed. The Legislature this year authorized the issue of 4-per-cent. refunding bonds, the proceeds of which should be used to retire such Territorial bonds as were subject to call and bore a higher rate of interest than 4 per cent. Under this authority a call was made for \$50,000 of 6-per-cent. bonds issued for the Penitentiary at Bismarck, and \$63,000 of 6-per-cent. bonds issued for additional buildings for the North Dakota Hospital for the Insane, for the payment of which \$113,000 of thirty-year 4-per-cent. bonds, dated May 25, 1890, were sold at a premium of \$10,555. Of the bonded indebtedness, \$118,600 bears interest at 6 per cent., \$83,507.46 at 5 per cent., \$332,000 at 4½ per cent., and \$155,700 at 4 per cent.

Although the surplus in the treasury during the year was several times nearly exhausted, all warrants have been paid at presentation, and by rigorous economy the financial disasters that threatened the new State have been averted.

Settlement with South Dakota.—The commissioners appointed on the part of North Dakota to act with commissioners from South Dakota, in effecting an adjustment of Territorial liabilities between the two States, reached a settlement late in the year which was approved by the Governor of each State. It fixes the indebtedness of South Dakota to North Dakota at \$64,141.46. Of this amount, \$46,500 is the sum agreed upon by the Constitutional Convention as a settlement of liabilities incurred prior to March 8, 1889, and the remainder, \$17,641.46, is the amount agreed upon by the joint commission as due in adjustment of liabilities accruing after that date up to the time of settlement. When the Territory was divided there were Territorial warrants outstanding against it to the amount of \$150,000. The terms of section 22 of the joint agreement of the Constitutional Convention provides that "the payment from South Dakota to North Dakota shall be made by South Dakota assuming North Dakota's share of current liabilities at the time of final adjustment to the extent of South Dakota's indebtedness to North Dakota." The final agreement, therefore, provides that by the payment of \$16,983.54 by North Dakota to South Dakota, this being the difference between North Dakota's share of the Territorial warrants with accrued interest to date of settlement and the amount due from South Dakota, the latter shall assume the Territorial warrants with interest, amounting to \$162,250.

Valuations.—The total assessed valuation of the State for 1890 was \$88,203,044, of which the value of real estate was \$65,181,177, and of personal estate \$23,021,857. The increase in valuation of real estate over the figures for 1889 is \$15,765,670, and of personal estate \$5,579,937; total increase, \$21,345,607. The area of land assessed in 1890 exceeds that assessed in 1889 by 2,468,837 acres. Nearly all this increase is caused by the assessment of the surveyed lands of the Northern Pacific Railroad Company, which had been exempt from taxation by the terms of the gross-earnings law of 1889, allowing the railroad

company to pay a percentage on its gross earnings in lieu of all other tax. The State Constitution provides that the payment of a per centum of gross earnings of railroad companies can only be accepted in lieu of taxes upon property exclusively used in and about the prosecution of the business of such companies as common carriers. The increase in the assessed value of personal property is largely occasioned by the fact that the Northern Pacific Railroad Company did not desire to avail itself of the gross-earnings law of 1890, but preferred to pay under the law of 1890, which provides that the State Board of Equalization, at its annual meeting in August in each year, shall assess at its actual value the franchise, roadway, roadbed, rails, and rolling stock of all railroads operated in the State.

County Debts.—The total debt of North Dakota counties is \$1,382,593, nearly all of which has been incurred in the past ten years. Of this total, the bonded debt is \$944,806, and the floating debt \$437,777. Few of the organized counties are without a debt.

Legislative Session.—The first Legislative Assembly of the State, which convened at Bismarck on Nov. 19, 1889, did not complete its session until March 18, 1890. (For its choice of United States Senators see "Annual Cyclopaedia" for 1889.) The urgent necessity of providing a revenue sufficient to meet the financial needs of the new State, led to the discussion of some measures which under other circumstances would never have been seriously proposed. Among the measures that were adopted was an act authorizing the issue of not more than \$200,000 in bonds bearing 4½ per cent. interest and payable in fifteen years, the proceeds to be used in defraying current State expenses. Another act suspends, until January, 1893, certain provisions of the militia law relating to the duties and compensation of the adjutant-general and to the annual encampments, so that expenditures for militia purposes are almost entirely cut off for the next two years. Provision was also made for reducing the interest charges of the State by authorizing the Treasurer to refund the Territorial bonds assumed by the State, as soon as they become subject to call, into State bonds bearing not over 4 per cent. interest. A resolution was passed and referred to the next Legislature for concurrence, proposing an amendment to the Constitution so that the limit of State indebtedness shall be changed to five mills on each dollar of assessed valuation as fixed from time to time for State and county purposes. A joint commission, consisting of the Auditor, Treasurer, and Attorney-General, was created to settle with South Dakota and determine what part of the outstanding liabilities of the Territory not adjusted shall be assumed by each State.

A new law for the management of public schools was enacted. Another law regulates the organization and management of State banks, Trusts, pools, and conspiracies in restraint of trade were declared unlawful. The courts were authorized, with the consent of all parties interested, to refer any case to arbitrators, whose finding shall be reported to the court appointing them, and shall be adopted as its judgment in the case, unless either party shall show that they are contrary to law, fraudulently obtained, or other-

wise invalid. The maximum rate to be charged by railroads for transporting coal mined in the State between points wholly within its limits was fixed at 75 cents a ton for fifty miles or less, and smaller proportionate rates were fixed for distances up to four hundred miles, the charge for the latter distance being \$2.15 a ton. An act to define the duties of the Railroad Commissioners directs them, in case they shall find any of the railroad rates or classifications unequal or unreasonable, "to compel any common carrier to change the same and adopt such rate, fare, charge, or classification as said Commissioners shall declare to be equal and reasonable." Pooling is forbidden, and the usual requirements regarding long and short hauls are inserted.

Provision was made for the establishment of an Academy of Science at Wahpeton, an Agricultural College at Fargo, a School for the Deaf and Dumb at Devil's lake, a normal school at Mayville, a second normal school at Valley City, a reform school at Mandan, and a soldiers' home at Lisbon; but no immediate appropriations for such institutions were made except \$5,000 for the School for Deaf and Dumb.

The prohibitory law passed at this session is discussed elsewhere. Other acts were as follow:

Appropriating \$2,500 to be expended by the Commissioner of Agriculture and Labor in relieving sufferers in the destitute districts.

Providing for an annual exhibit of the products of the State at Grand Forks, and creating a State board of agriculture.

Providing that the Superintendent of Public Instruction, Governor, Attorney-General, Secretary of State, and State Auditor shall constitute a board of university and school lands, having full control of the selecting, leasing, and sale of all public lands of the State and the investment of the permanent funds derived from such sale, except that all such lands granted to the State by Congress shall be selected by the Governor.

Authorizing counties to fund outstanding indebtedness.

Offering for five years from July 1, 1890, a bounty of \$2 for each 100 pounds of binding twine manufactured in the State.

Offering for five years from Jan. 1, 1890, a bounty of 2 cents a pound for each pound of merchantable sugar manufactured in the State from sugar beets grown in the State.

Offering for five years from Sept. 1, 1890, a bounty of \$1 for every 100 pounds of starch manufactured in the State from potatoes grown in the State.

Regulating the registration of brands and earmarks for cattle.

Requiring every chattel mortgage to be re-recorded every three years, in order to preserve its validity.

Authorizing organized townships to levy a tax not exceeding two mills on the dollar for the purpose of raising money for irrigation.

Repealing the act allowing town supervisors to issue bonds.

Granting to county courts the power to authorize the mortgaging of estates of deceased persons or of minors or incompetent persons.

Revising the law regulating the practice of dentistry.

Authorizing school boards to purchase United States flags for the schools.

Requiring the United States flag to be displayed throughout each day on all public State institutions.

Offering to any person planting one or more acres of prairie land with any forest trees, except the black locust, and successfully cultivating the same for three

years, an annual bounty of \$3 an acre for ten years thereafter, but such grove must have at least 400 living trees to the acre. Also offering an annual bounty of \$4 for each 160 rods of hedge of such trees maintained by any person along the highway or the boundary-line of his land.

Regulating marriages and requiring a license therefor from the judge of the County Court before any marriage can be legally solemnized.

Creating a State Board of Medical Examiners, and requiring all persons practicing medicine to obtain a license therefrom.

Raising the limit of municipal taxation to 20 mills on each dollar.

To prohibit the sale, gift, lending, or showing to any minor child of any book, pamphlet, or other printed paper devoted to the publication or principally made up of criminal news, police reports, or accounts of criminal deeds, or pictures and stories of deeds of bloodshed, lust, or crime, and to prohibit the public exhibition of the same.

To exclude minors from trials of a scandalous or obscene nature.

Creating a State Inspector of Oils.

Creating a State Board of Pharmacy and requiring all pharmacists to obtain a license therefrom.

Fixing the meeting of Presidential Electors on the second Monday of January next after their election.

Authorizing the issue of 6-per-cent. funding warrants, not over \$50,000 in amount, to pay outstanding warrants of the State.

Authorizing counties to issue bonds up to constitutional debt limit, to raise money for procuring seed grains for needy farmers resident therein.

Giving to persons who advance seed grain on credit to needy farmers a lien on the crop therefor, and providing that if the price of such seed grain be not paid before a fixed time after the sowing, it shall be levied as a tax against the property of the debtor.

Authorizing counties to offer a bounty of not over \$3 nor less than \$1 for every wolf killed within their limits.

Making 7 per cent. the legal rate of interest, and prohibiting contracts for a higher rate than 12 per cent.

Regulating the duties and liabilities of public warehousemen and fixing their maximum rates.

Punishing any person who sells or gives to any minor under 16 years any cigar or cigarette or tobacco in any form, except on the written order of parent or guardian.

Declaring that the fiscal year for the State shall end on Oct. 31.

Repealing the Territorial act of 1887 prohibiting the destruction of beaver.

Imposing a license tax upon express companies.

Education.—The new school law has proved satisfactory in its operation during the year. It appears that 82 per cent. of the whole number of children of school age in the State are enrolled as pupils in the various public schools.

The University of North Dakota, at Grand Forks, is prosperous. The number of students in attendance during the year ending June 30 was 151. By an act of the last Legislature there was added to the course of instruction a military department and a school of mines.

The State normal school at Mayville was opened in December. No appropriation was made by the State, and it has been opened and supported, buildings secured, teachers employed, and supplies furnished, solely through the liberality of the citizens of Mayville and vicinity.

No appropriation was made for the normal school at Valley City, but through the liberal donations of citizens the school has been opened. The pupils number 27.

The act establishing an agricultural college and experiment station at Fargo contained no appropriation, but by an act of Congress, approved March 2, 1887, there is an annual appropriation for each State of \$15,000 for the support of an experiment station, and by an act approved Aug. 30, 1890, there is appropriated for agricultural colleges, for the year ending June 30, 1890, the sum of \$15,000, and an annual increase of the amount of such appropriation thereafter for ten years by an additional sum of \$1,000 over the preceding year, and the annual amount to be paid thereafter to each State and Territory shall be \$25,000.

Charities.—The average number of patients at the State Lysane Hospital during the year was 197, an increase of 13 over 1889.

A School for the Deaf and Dumb at Devil's Lake was established by the Legislature this year and \$5,000 appropriated for its support. A commodious building was offered by the city for the use of the school for two years, in which it was opened on Sept. 10 with 17 pupils.

Prisons.—At the close of the year there were 50 convicts in the State Penitentiary, a slight increase for the year. The annual per capita cost for maintenance has been reduced from \$556.75 during the last year of territorial rule to \$312.72 during the present year. There is no adequate provision for employing the convicts.

Militia.—The State militia consists of seven companies of infantry, two troops of cavalry, and one battery of artillery, all under one regimental organization, and comprising 28 officers and 350 enlisted men. Of the enlisted men 148 are entitled to discharge by reason of expiration of service. By reason of the act of this year suspending to a great extent until 1893 the laws relating to the militia, and owing to a lack of appropriation except for armory rent, there has been little increase in numbers or efficiency during the year.

Prohibition.—As required by Article XX of the State Constitution, a stringent prohibitory law was passed by the Legislature this year, which went into effect on July 1. It provides that "any person, association, or corporation who shall within the State, directly or indirectly, manufacture any spirituous, malt, vinous, fermented, or other intoxicating liquor, or shall import any of the same for sale, or gift, as a beverage, or shall keep for sale, sell, or offer for sale, or gift, barter, or trade, any of such intoxicating liquors as a beverage, shall for the first offense be guilty of a misdemeanor, and on conviction shall be fined in any sum not less than \$200 nor more than \$1,000, and be imprisoned in the county jail not less than 90 days nor more than one year, and for the second and every subsequent offense shall be deemed guilty of a felony and be punished by imprisonment in the State Prison for a period not exceeding two years and not less than one year, provided that registered pharmacists under the laws of this State may sell intoxicating liquors for medicinal, mechanical, scientific, and wine for sacramental purposes, as hereinafter provided." Druggists permits to sell liquor shall be granted only by the county court upon petition signed by 25 reputable freeholders and 25 reputable women.

A short time before this law went into effect,

the decision of the United States Supreme Court in the case of *Leisy vs. Hardin* rendered it inoperative as applied to liquors sent or brought from another State and sold by the importer in what are called "original packages." (See *ORIGINAL-PACKAGE DECISION*, in this volume.)

Political.—On July 29 a Republican State Convention met at Grand Forks and nominated the following ticket for State officers: For Governor, Andrew H. Burke; for Lieutenant-Governor, Roger Allin; for Secretary of State, John Flittie; for Auditor, John P. Bray; for Treasurer, L. E. Booker; for Attorney-General, C. A. M. Spencer; for Superintendent of Public Instruction, John Ogden; for Commissioner of Agriculture, H. T. Helgesen; for Commissioner of Insurance, A. L. Cary; for Railroad Commissioners, George W. Harmon, George H. Walsh, and Andrew Slotten; for Congressman, Martin N. Johnson. Messrs. Flittie, Bray, Booker, Helgesen, and Cary were renominated. The platform demands protection for the wool industry and legislation to protect and encourage agriculture, and further declares as follows:

The Republican party pledges itself to the endeavor to secure the passage of such laws as will guarantee to the people of the State the free disposition and transportation of their productions unimpeded by the vexatious action of rings and monopolies and unjust exercise of corporate franchises, and especially to secure the reduction of rates on lumber, coal, and grain.

The people of North Dakota have declared for the complete extermination of the saloon. The Republican party in this struggle renews its pledges of the past, and joins the friends of the home in insisting upon a fair test and a vigorous enforcement of the present prohibitory law.

The State Convention of the Democratic party assembled at Grand Forks on Aug. 6 and made the following nominations: For Governor, William N. Roach; for Lieutenant-Governor, George P. Garred; for Secretary of State, Frank A. Wilson; for Auditor, C. E. Meech; for Treasurer, I. P. Baker; for Attorney-General, J. V. Brooke; for Insurance Commissioner, F. S. Scrimgaard; for Commissioner of Agriculture, J. Harstad; for Superintendent of Public Instruction, Miss Laura J. Eisenhuth; for Railroad Commissioners, L. H. Low, B. B. Stevens, and N. H. Rinde; for Congressman, John D. Benton. The platform includes the following:

We favor a free, fair, intelligent, and secret ballot, and urge our legislators to carry out the Constitution on the election franchise.

We oppose all sumptuary laws which vex the citizens and interfere with individual liberty, and we declare in favor of a resubmission to the people of the prohibition amendment.

We are in favor of the free unrestricted coinage of silver and an increase of currency, and a volume of money equal to the requirements of the ever-increasing business and trade, to facilitate the payments of debts of all debtors.

The death of candidate Meech late in August and the withdrawal of several other candidates caused vacancies in the ticket which the State Committee filled before the election by making the following nominations: For Treasurer, Knud Nomland; for Auditor, William Braithwaite; for Attorney-General, Burke Corbett; for Commissioner of Agriculture, Robert Ewing; for Commissioner of Insurance, W. H. Makee.

On Sept. 25 conventions called by the Prohibitionists and by the leaders of the Farmers' Alliance met at Grand Forks and entered into negotiations that resulted in a coalition of a majority of the Prohibitionists with the Alliance delegates. A fusion ticket for State officers was agreed upon containing the names of Walter Muir for Governor, H. R. Dickieson for Auditor, Knud Nomland for Treasurer, N. C. Young for Attorney-General, and Ezra Turner for Railroad Commissioner. Candidates Allin, Cary, Slotten, and Johnson upon the Republican ticket, and candidates Wilson, Eisenhuth, and Stevens on the Democratic ticket were adopted as the party candidates for the respective positions to which they had already been nominated. N. C. Young subsequently withdrew from the ticket, and the party supported Burke Corbett, the Democratic candidate. A platform was adopted demanding the free coinage of gold and silver, the repeal of the war tariff, the enforcement of prohibition, government ownership of railroads, telegraph lines, and coal mines, legislation imposing an income tax, the enactment of an Australian ballot law, and that the government should loan money upon real estate and establish subtreasuries for the storage of grain, on which it should loan money to the farmers at low rates.

At the November election all the Republican nominees were successful. For Governor, Burke received 19,053 votes, Roach 12,604, and Muir 4,821; for Lieutenant-Governor, Allin had 23,989 votes and Garred 12,293. The plurality of Johnson for member of Congress was 6,535. Members of the Legislature were chosen at the same time as follow: Senate, Republicans 21, Democrats 5, Farmers' Alliance and Independents 5; House, Republicans 40, Democrats 16, Farmers' Alliance and Independents 6.

NOVA SCOTIA. Elections.—Parliament was dissolved, and on May 22, 1890, elections were held. The issues were principally confined to charges of extravagance and corruption against the Fielding (Liberal) Government in borrowing large sums of money for the repair and maintenance of roads and bridges throughout the province. The result of the election was the return to power of the Hon. W. S. Fielding and his Cabinet. Every member of his Cabinet was returned, and of the 18 counties, 10 were carried by the Government, 5 were divided, and 3 carried by the Opposition (Conservative), so that the House stands 28 Government, 10 Opposition. The leader of the Opposition, Dr. William McKay, was defeated, and his place has been taken by one of the new members, Charles H. Cahane, editor of the Halifax "Evening Mail." Mr. Cahane is a native of Yarmouth County and represents Shelburne County in the House of Assembly. Although not yet thirty years of age, he has taken an active part on the platform in two or three election campaigns, proved a ready debater and forcible speaker, and is looked upon by his party as a great strength to them in the Legislature. In 1886, on the Repeal issue, the Fielding Government carried the province by a majority of 5,298 of the popular vote, having a majority of 22 in the House. In 1890, while there was an increase in the total vote of nearly 8,000, the Government carried the province by a majority of 3,279 of the popular vote, giving

them a majority of 18 in the House. This was an indication of a gain by the Conservative party that was even more marked in the ensuing Dominion election.

Finances.—The revenue of the province, by last official statement (January, 1890), is \$713,941; expenditure chargeable to revenue, \$668,774; leaving a surplus at the opening of the year of \$45,167.

Trade.—The imports of Nova Scotia for the fiscal year ending June 30, 1890, were valued at \$9,803,588, an increase of \$103,491 over 1889; the exports at \$9,468,409, an increase of \$636,128 over 1889. Thus the total trade of the province with all countries, except the other Canadian provinces, amounted to \$19,271,997, an increase over the previous year of \$739,619. The following table illustrates the growth of Nova Scotia's foreign trade:

YEARS.	Imports.	Exports.	Total trade.	Duty paid.
1886.....	\$7,840,244	\$8,071,518	\$15,911,757	\$1,668,087
1887.....	7,487,856	8,566,959	16,054,815	1,757,400
1888.....	8,617,099	8,818,006	17,435,105	2,124,460
1889.....	9,700,097	8,882,281	18,582,378	2,342,717
1890.....	9,803,588	9,468,409	19,271,997	2,288,387

The trade of the province is chiefly with Great Britain and the United States. The imports from Great Britain in 1890 were valued at \$4,189,957, and exports to the same country at \$2,598,490. The imports from the United States in 1890 were valued at \$2,984,805, and exports to that country at \$2,936,658.

The arrivals of shipping from sea at the various ports of Nova Scotia during 1890 numbered 6,315 vessels, 1,670,527 tons; clearances, 6,038 vessels, 1,610,855 tons. These figures do not include vessels in the coasting business.

Legislation.—The principal acts passed by the Legislature in the session of 1890 were as follow;

To borrow an additional sum of \$300,000 for the construction and repairs of roads and bridges.

To provide a tribunal of arbitration in disputes between coal-mine owners and their employees.

To enable the Government to refer constitutional and other provincial questions to the Supreme Court of the province for an opinion subject to appeal as in case of judgment in action.

Altering and amending the laws relating to imprisonment for debt.

Making important amendments in the married-woman's property act.

Amending the municipal assessment act of 1888, but not touching the important principles of the act.

Railways.—The new Cape Breton division of the Intercolonial Railway (built and owned by the Dominion Government) was completed in 1890, though not formally opened for traffic till the first week in January, 1891. The Cape Breton Railway runs from Point Tupper on the Strait of Canso (opposite the terminus of the Intercolonial Railway, Eastern Extension, at Port Mulgrave, on the mainland) 78 miles to a point near Leatche's Creek, from which 2 extensions branch—one 5 miles to the town of North Sydney, the other 13 miles to the town of Sydney—with a connecting line, about a mile long, giving communication with the Inter-national Coal Company's Railway beyond North

Sydney. Thus that important industry is brought into direct line with the Government railway system. The same advantage is afforded to the coal mines of Sydney. The total length of the new railway line in Cape Breton is 98 miles, with a bridge across Grand Narrows, which bridge alone cost about \$1,000,000. Communication between the terminus at Point Tupper, on Cape Breton Island, and the railway on the mainland at Port Mulgrave is kept up by a ferry across the Strait of Canso.

The Oxford and New Glasgow Railway is another part of the Intercolonial Railway, built by the Government and opened in 1890. It runs from Oxford, in Cumberland County, to Pictou Town, in Pictou County, 69 miles.

The Cornwallis Valley Railway is fourteen miles long, built by a company with a Government subsidy. It connects the Windsor and Annapolis Railway at Kentville with Kingsport.

The Digby and Annapolis Railway, though not yet opened, was practically finished in 1890. It was built by the Dominion Government, and is to be part of the Western Counties Railway, connecting that line with the Windsor and Annapolis Railway, and thus connecting Yarmouth and Digby with the railway system of the continent. The gap between Digby and Annapolis, which is filled by this new line, was only eighteen miles; but owing to the large amount of bridging was very expensive, costing \$30,000 a mile. It will be opened early in 1891.

Ship Railway.—This remarkable undertaking, whereby loaded vessels are to be conveyed across the isthmus between Chignecto Bay and Northumberland Strait, connecting the Bay of Fundy with the Gulf of St. Lawrence, has made such progress that it will be opened by July 1, 1891.

Mines.—The yield of gold in Nova Scotia for 1889 (the latest official report) was 26,155 ounces, an increase of 3,748 ounces compared with the previous year; coal raised, 1,756,279 tons, a decrease of 19,449 tons; coke made, 35,565 tons, an increase of 5,637 tons; gypsum exported, 147,344, an increase of 21,544 tons. Of the coal raised, 29,986 tons were shipped to the United States, nearly 25,000 tons of which was slack coal. The gold mines showed a yield of 17 pennyweight 22 grains per ton of 2,000 pounds, or \$2.22 a day per man employed. The total value of the year's gold produced was \$500,000.

Valuation of Property.—The official statement of assessors' valuation of property for 1890 shows that in Nova Scotia to be valued at \$79,888,239, of which \$31,991,962 represents the assessment in cities and towns and \$47,896,277 the property outside of incorporated towns. But these figures do not represent the full value of property in Nova Scotia, because church and school property, lands, buildings, railways, and other public works owned by the imperial, provincial, or Dominion governments, as well as the property owned by towns and municipalities, are not included in the valuation, and certain industries are specially exempt from taxation, and are therefore not placed on the assessment roll. Shipping property, too, is, by act of Parliament, only assessed at half its actual value. The full value of property in Nova Scotia, including that exempted as above stated, must be considerably over 200,000,000.



OBITUARIES, AMERICAN. **Abbott, Benjamin Vaughan**, lawyer, born in Boston, Mass., June 4, 1830; died in Brooklyn, N. Y., Feb. 17, 1890. He was a son of Jacob Abbott, author of many popular books for the young. He was graduated at the New York University in 1850, and was admitted to the bar in 1852. After spending some years in general practice, in partnership with his brother Austin, he applied himself to legal work, and wrote or compiled, alone or in conjunction with his brother Austin, nearly 100 volumes of digests, reports, treatises, and other legal works. Early in his career he was associated with his brothers Austin and Lyman in writing "Cone-Cut Corners" (1855), and "Matthew Caraby" (1858). His earliest reports and digests covered the laws of New York State, and his first important appointment was to the secretaryship of the New York Code Commissioners, who reported the draft of a penal code to the Legislature in 1865, which was the basis of the present code. This draft was prepared by him under the direction of the commissioners, and was warmly commended by the bench of the State. His second and most notable appointment was by President Grant in 1870, as one of three commissioners to revise the statutes of the United States. With the assistance of Charles P. James and Victor C. Barringer, the other commissioners, he spent three years in condensing sixteen volumes of the laws of the United States into one volume, a task displaying much energy and ripe judgment. His other publications include "Reports of Decisions of Circuit and District Courts of the United States" (2 vols., New York, 1870-71); "A Digest of Decisions on Corporations from 1860 to 1870" (1872); "A Treatise on the Courts of the United States and their Practice" (2 vols., 1877); "Dictionary of Terms in American and English Jurisprudence" (2 vols., 1879); "Judge and Jury" and "Traveling Law School and Famous Trials" (1880); and the "National Digest" (1889). The last work contained in five volumes the most important acts of Congress and decisions of the United States courts, the Circuit and District courts, Court of Claims, and others, from the organization of the Government till December, 1888. It was said of his works that they had greatly simplified the study of law and increased the pleasure of practicing it.

Acheson, Alexander Wilson, lawyer, born in Philadelphia, Pa., June 14, 1809; died in Washington, Pa., July 10, 1890. He was graduated at Washington College in 1827, and admitted to the bar in 1832; was deputy attorney-general for Washington County, Pa., in 1835, 1836, 1839, 1845, and 1846; and was president judge of the Twenty-seventh Judicial District of Pennsylvania from 1856 till 1877. He received the degree LL. D. from Parsons College, Iowa, in 1885.

Allen, John Henry, mariner, born in St. Andrews, West Indies, in 1836; died at sea, presumably in January, 1890. When a child he was taken to Yarmouth, Nova Scotia, and at twelve years of age began his career as a seaman. He was rapidly promoted, and became master of a vessel at an unusually early age. At the beginning of the civil war he entered the United States navy as ensign, and soon rose to be acting master. He was an officer on the "Portsmouth," of the Western Gulf blockading squadron, was engaged in the battle of Mobile Bay on the "Lackawanna," and for his services there was given command of the United States steamer "Selma." In 1866 he resigned from the navy, and re-entered mercantile life as a shipmaster, eventually becoming a large ship owner. Since 1880 he had made his home in Brooklyn, N. Y. He sailed thence Dec. 8, 1889, in the ship "Bridgewater," of which he was owner and master, for Queenstown, and neither he, his crew, nor his vessel has been heard

from since. He published "The Decline of American Shipping, its Cause and Remedy" (New York, 1882); a pamphlet in opposition to the proposed Spanish-American reciprocity treaty (1884); and "The Tariff and its Evils; or, Protection which does not Protect" (1888).

Anderson, Martin Brewer, educator, born in Brunswick, Me., Feb. 12, 1815; died at Lake Helen, Fla., Feb. 26, 1890. He was the son of a ship-builder. His father, grandfather, and great-grandfather, served in the War of 1812, Revolution, and French War, respectively. He was graduated at Waterville College, Me., in 1840. He

studied theology for a year at Newton, Mass., and then was appointed tutor in Latin, Greek, and mathematics at Waterville. Subsequently he became Professor of Rhetoric there, and he also organized and taught the course in modern history. In 1850 he resigned his professorship, and became editor and proprietor of the New York "Recorder," a weekly Baptist journal. In 1853 he became President of the University of Rochester, N. Y. This was a new institution, established in 1850 under Baptist auspices, which had elements of unusual strength in its faculty. Chester Dewey, an authority in botany, was at the head of the Department of Natural History; Asahel C. Kendrick was Professor of Greek; John H. Raymond (afterward President of Vassar College) was Professor of Belles-Lettres; John F. Richardson was Professor of Latin; and Isaac F. Quinby, a graduate of West Point (afterward a general officer in the national service) was Professor of Mathematics. At the head of such a faculty, strengthened by other professors of note, Dr. Anderson, exerting enormous personal energy and executive ability, soon gave the college a prestige altogether unusual for an institution so young. He himself taught the Department of Psychology and Political Economy. Eight years after he assumed the presidency the first of the college buildings was completed on a fine plot of twenty acres in the eastern part of the city, and was named Anderson Hall in his honor. On the breaking out of the civil war, in 1861, he became one of the most earnest and effective advocates of the national cause, and made public addresses that materially assisted in the work of enlisting and forwarding troops. In the autumn of 1862 failing health made a cessation of work necessary, and he then spent a year in European travel, assisting somewhat in England to a better understanding there of the American question. On returning he resumed his place as president of the University, which he retained until his final retirement in 1888. Nothing was more noticeable in his teachings than the constant inculcation of loyalty to the National Government and to the principles of universal liberty on which it is founded. He was a member of the New York State Board of Charities for thirteen years, and one of the commissioners of the State reservation at Niagara Falls. He had delivered many addresses, and published essays on educational and other topics, and these at the time of his death he was preparing for publication, but the task was not complete. His wife, Elizabeth Gilbert, who had been his constant counselor in all his work, died a few days before him. They had no children, and his estate, about \$46,000, he bequeathed to the University of Rochester.



Appleton, Daniel Sidney, publisher, born in Boston, Mass., April 9, 1824; died in New York city, Nov. 13, 1890. He was the fourth son of Daniel Appleton, founder of the publishing firm of D. Appleton & Co.; was graduated at Yale College in 1843; and, after studying one year in the Yale Law School, removed to New York city and entered his father's publishing house. After he had become familiar with the business, his father sent him to London, where he managed the English branch of the house till 1849, when he was called home by his father's illness, on whose death, in the same year, he became a member of the firm. To him was assigned the management of the manufacturing department, and he also became the financial adviser of the house. He remained in these relations till failing health caused him to withdraw from active participation in the business; but he retained a general advisory interest until his death. Mr. Appleton was a director of several financial institutions and a member of the Union, Century, University, and New York Yacht clubs.

Astor, John Jacob, second, capitalist, born in New York city, June 10, 1822; died there, Feb. 22, 1890. He was a grandson of John Jacob Astor, first, and a son of William B. Astor; was graduated at Columbia College; subsequently studied in the University of Göttingen, was graduated at Harvard Law School, and, after spending a year in law practice, entered the office of the family estate in 1847. The management of the great family estate, on the rigid lines prescribed by the founder, occupied his attention very closely; yet he personally and liberally promoted several interests with which the family name had been associated for many years, and through his wife was constantly engaged in deeds of practical benevolence. On the death of his father he assumed, as head of the family, the special care of the Astor Library, though he would accept no other office in its directory than that of treasurer. In 1879 he deeded the institution three lots on Lafayette Place, on which he subsequently erected the extension known as the North Library Building, at a cost of \$250,000. The library also received from him a valuable collection of early printed books and rare manuscripts and other contributions, which brought the aggregate of the family benefactions to the institution up to \$1,250,000. Another object of his special favor was Trinity Church, of which he had been a vestryman for many years and to which, in association with his brother, he presented the reredos and altar, which cost \$80,000, as a memorial to his father. Through his wife he virtually built the New York Cancer Hospital, placed the Woman's Hospital beyond the possibility of financial failure, made the Children's Aid Society one of the foremost institutions of practical benevolence in the country, and aided other institutions and enterprises to an extent of which only himself, his wife, and some trusted third person were ever aware. After the death of his wife in 1887 he presented to the Metropolitan Museum of Art her superb collection of lace. By his father's will he received two thirds of the family estate (variously estimated to be worth from \$100,000,000 to \$150,000,000), and this share, with its accumulations, he in turn bequeathed to his son, William Waldorf Astor, who thus became the head of the family. His public bequests included \$100,000 to St. Luke's Hospital; \$50,000 to the Metropolitan Museum of Art; \$100,000 to the New York Cancer Hospital; \$400,000 to the Astor Library, the net income to be used exclusively for the purchase of books; and \$50,000 to the library, the income to be used in paying the trustees for attendance at regular meetings of the board at the rate of \$10 each for each meeting.

Baker, George M., dramatist, born in Portland, Me., July 2, 1832; died in Barnstable, Mass., Oct. 20, 1890. He removed to Boston at an early age, learned the publishing business there, and carried it on, with a partner and alone, for several years. He became editorial reader and superintendent of the publishing department in the firm of Lee & Shepard in 1862, and remained with the firm till June, 1889, when illness

compelled him to resign. From youth he had taken an active interest in the amateur drama, and he became widely known through the performance of his dramatic compositions by clubs and societies. His plays, which were popular in New England, numbered about eighty, and included "Wanted, a Male Cook," "Above the Clouds," "Among the Breakers," "Down by the Sea," "Better than Gold," "Nevada," "Rebecca's Triumph," "Bread on the Waters," and "Comrades and Messmates." He edited a series of ballads, and published the novels "Running to Waste" and "Something Better."

Barry, Patrick, horticulturist, born near Belfast, Ireland, in May, 1816; died in Rochester, N. Y., June 23, 1890. He was educated and became a teacher in a national school, and when twenty years old emigrated to the United States. His first employment as a clerk in Prince & Co's nursery in Flushing, L. I., led him to adopt the business of a nurseryman, and after four years' experience he became a partner of George Ellwanger in Rochester. He applied his whole attention to his business, and made a special and detailed study of horticulture and pomology, and the firm soon became widely known as growers and importers, and their nurseries became the largest in the country. In 1844 he became editor of the "Genesee Farmer," and in 1852 left that paper and was editor of the "Horticulturist" for two years. He was a frequent contributor to agricultural and other publications, writing particularly on pomology, published a "Treatise on the Fruit Garden" (1851; new ed., 1872), and compiled the "Catalogue" of the American Pomological Society. He was a member of the board of control of the New York State Agricultural Experiment Station, an ex-president of the New York State Agricultural Society, and president of the Western New York Horticultural Society for over twenty years.

Bates, Charlotte Fluke, author, born in New York city, Nov. 30, 1838; died there Jan. 4, 1890. She removed to Cambridge, Mass., in 1847, received a public-school education there, and began writing verses while very young. As a contributor to "Our Young Folks" and other magazines, she soon obtained a wide reputation. Early in her literary career she won the friendship of Henry W. Longfellow, whom she subsequently assisted in compiling his "Poems of Places," making numerous translations for that work. She published several works, among which "Risk, and other Poems" (1879) is the best known, and edited "The Longfellow Birthday Book," "The Seven Voices of Sympathy" (1881), and "The Cambridge Book of Poetry" (1882).

Baxter, Jedediah Hyde, surgeon, born in Stafford, Orange County, Vt., May 11, 1837; died in Washington, D. C., Dec. 4, 1890. He was graduated at the University of Vermont in 1859, and at its medical department in 1861, and entered the army as surgeon of the Twelfth Massachusetts Infantry on June 26, 1861. He was appointed surgeon of United States volunteers April 4, 1862; brevetted lieutenant-colonel and colonel for services in the recruitment of the armies of the United States and for faithful services during the war, March 13 and 30, 1865; commissioned lieutenant-colonel and assistant medical purveyor in the permanent establishment of the army, July 20, 1867; lieutenant-colonel and chief medical purveyor, March 12, 1872; colonel and chief medical purveyor, June 23, 1874; and appointed surgeon-general of the army, Aug. 16, 1890. Dr. Baxter was also a graduate of the law department of Columbian University, Washington, D. C., which gave him the degree of LL. B. in 1875; compiler of "Medical Statistics of the Provost Marshal General's Bureau"; and a member of several medical and scientific associations.

Beardsley, Sidney Burr, lawyer, born in Monroe, Conn., Aug. 20, 1822; died in Bridgeport, Conn., April 24, 1890. He came from a family of lawyers, and was a son of Judge Cyrus Beardsley. After studying at Yale College in 1839-'40, he studied law in Danbury, was admitted to the bar in August, 1843, and became judge of the Probate Court in Norwalk in 1844. He

moved to Bridgeport in 1850, was a State Senator in 1858, and practiced till 1874, when he was appointed a judge of the Superior Court of Connecticut. In 1887 he succeeded to the bench of the Supreme Court of Errors, which he occupied till constrained by failing health to resign on Nov. 1, 1889.

Beatty, Ormond, educator, born in Mason County, Ky., Aug. 13, 1815; died in Danville, Ky., June 24, 1890. He was graduated at Center College, Danville, took part of the course at Yale College, and returning to Center College was appointed Professor of Chemistry, Natural Philosophy, and Mathematics there. In 1872 he was chosen president of the college and Professor of Metaphysics and Political Science, and he held these offices till his resignation in 1886. He received the degree of LL. D. from the College of New Jersey in 1868.

Beck, James Burnie, legislator, born in Dumfriesshire, Scotland, Feb. 13, 1822; died in Washington, D. C., May 3, 1890. He received an academic education in his native country, came to the United States with his parents while a youth, settled in Lexington, Ky., and was graduated at the Law School of Transylvania University in 1846. He began to practice in Lexington, and for twenty years applied himself closely to his profession, in which he achieved exceptional success. In 1866 he was elected Representative in Congress from the Seventh Kentucky District as a Democrat, and in 1868, 1870, and 1872 was re-elected, declining a renomination in 1874 and resuming practice. In May, 1878, he was appointed a member of the commission to define the boundary between Maryland and Virginia, and in the following winter was elected United States Senator. He was re-elected in 1882 and 1888, and his third term would have expired March 4, 1895. As Representative and Senator Mr. Beck had served on several important committees, including those on ways and means, civil service and retrenchment, appropriations, finance, expenditure of public money, inquiry into the claims of citizens of the United States against Nicaragua, transportation routes to the seaboard, and (joint select) on the insurrectionary States. He was the most rapid speaker in the national Legislature, a tireless worker in his committees, an able debater, and an earnest advocate of tariff reform. His last official act was the preparation of the minority report on the tariff in 1889.

Beckwith, Corydon, lawyer born in Caledonia County, Vt., in 1823; died in Hinsdale, Ill., Aug. 18, 1890. He was educated at Wrentham, Mass., and at the University of Vermont; was admitted to the bars of Vermont and Maryland; removed to Chicago early in his professional career; and became an associate justice of the Supreme Court of Illinois, general solicitor of the Chicago and Alton Railroad Company, and attorney of the Chicago Board of Trade.

Beckwith, John Watras, clergyman, born in Raleigh, N. C., Feb. 9, 1831; died in Atlanta, Ga., Nov. 23, 1890. He was graduated at Trinity College, Hartford, Connecticut, in 1852; was ordained deacon in the Protestant Episcopal Church in 1854, and priest in 1855; was stationed in Wadesborough, N. C., and in Anne Arundel County, Md., till the beginning of the civil war; was

rector of Trinity Church, Demopolis, Ala., during the greater part of the war; and after its close was rector of Trinity Church, New Orleans, till elected bishop

of the diocese of Georgia. He was consecrated in St. John's Church, Savannah, April 2, 1868.

Belknap, William Worth, lawyer, born in Newburg, N. Y., Sept. 22, 1829; died in Washington, D. C., Oct. 11-13, 1890. He was graduated at the College of New Jersey in 1848; studied law in Georgetown, D. C., and was admitted to the bar in 1851; and settled in Keokuk, Iowa. He rose rapidly in his profession, became active in politics as a Douglas Democrat, and served in the State Legislature in 1857-'58. In November, 1861, he was commissioned major of the Fifteenth Iowa Volunteers, with which he served in the Army of the Tennessee, and took part in the battle of Shiloh, the siege and battle of Corinth, the sieges of Vicksburg and Atlanta, and the battles around Atlanta, in July, 1864. For his services in the latter campaign he was promoted brigadier-general. On March 13, 1865, he was brevetted major-general of volunteers, and on Aug. 24 was mustered out of the service. He declined an appointment in the regular army; was collector of internal revenue for the First Iowa District from 1865 till Oct. 13, 1869; and was then called to President Grant's Cabinet as Secretary of War. He held this office till March 7, 1876, when he resigned in consequence of charges of official corruption, in that, with his knowledge, a member of his family had received \$24,450 between Oct. 10, 1870, and March 2, 1876, in consideration of his appointment of Caleb B. Marsh to be post-trader at Fort Sill, Indian Territory. On the charges he was impeached and tried by the United States Senate, and was acquitted on the ground of lack of jurisdiction. He passed the remainder of his life in practicing his profession in Washington. His friends claimed that he was wholly ignorant of the payment of the money till the charges were preferred, and that he afterward refused to admit or deny the allegations, in order to screen the culpable member of his family. He was found dead in his bed on the morning of Oct. 13, having been seen alive last on the evening of the 11th.

Belmont, August, banker, born in Alzey, Germany, Dec. 6, 1816; died in New York city, Nov. 24, 1890. He was educated in Frankfurt, and when fourteen years old was apprenticed to the Rothschild banking house in that city. In 1833 he was sent to Naples to attend to the firm's interests; in 1837 went to Havana for a similar purpose; and soon afterward to New York city, where the business of the firm was seriously threatened by the financial panic. He soon determined to make the latter city his permanent home, and established himself in the banking business and as the American representative of the Rothschilds. In 1844-'50 he was the consul-general of Austria in New York city, resigning on account of disapproval of Austria's treatment of Hungary; in 1855 was appointed United States *chargé d'affaires* at the Hague; and in 1854-'58 was minister resident there. While holding this appointment, he negotiated an important consular convention and rendered other diplomatic service, for which he received the special thanks of the United States Department. In 1860 he was a delegate to the Democratic National Convention where he supported Stephen A. Douglas; and when a portion of the delegates withdrew and organized the convention in Baltimore, he became active in that body, and was by it made chairman of the National Democratic Committee, which place he held without interruption till 1872. He remained an influential worker in his party till after the presidential election of 1876, and then closed his active political career. Mr. Belmont was widely known as a liberal patron of fine arts and of the turf. He gathered one of the most noted collections of paintings in the United States; was President of the American Jockey Club for twenty years, and owned several stables of racing and breeding horses.

Benton, John Dean, model-maker, born in Fort Independence, Boston Harbor, in 1823; died in East Providence, R. I., Oct. 18, 1890. He learned and followed the jeweler's trade till the beginning of the civil war, when he enlisted in the Second Rhode Isl-



and Volunteers. While in the service he contracted rheumatism in his hands, which led to his discharge for disability. He settled in Wilmington, Del., and began making surgical instruments for use in the army. An order to make a model of Ericsson's "Monitor" led him to undertake a business in which he became famous. The "Monitor" model was made of gold for a watch-charm, and had a revolving turret and a propeller that would turn at will. The accuracy of this miniature model won him the lasting friendship of Capt. Ericsson, for whom he made a working model of the United States frigate "Roanoke." Subsequently he made models of steam yachts, locomotives, steamships, the Corliss centennial engine, Independence Hall in Philadelphia, electric cars, and of several of the new naval cruisers, nearly all of gold and silver and with musical boxes attached. He did all the work himself, though his hands and fingers were drawn out of shape by rheumatism.

Bigelow, Henry Jacob, physician, born in Boston, Mass., in 1818; died in Newton, Mass., Oct. 30, 1890. He received his preparatory education in the Boston Latin School, was graduated at the medical department of Harvard College, and supplemented his medical studies with a course in Europe. Early in his career he became interested in experiments with anæsthetic agents, and in November, 1846, he made the first public announcement of their discovery and successful application. Dr. Bigelow was surgeon to the Massachusetts General Hospital for many years, and Professor of Surgery in Harvard College for twenty years. In 1869 he published a notable work on the mechanism of dislocations by the flexions method, and his labors in the field of practical surgery gained him membership in the principal medical, surgical, and scientific societies of the United States and Europe.

Billings, Frederick, lawyer, born in Royalton, Vt., Sept. 27, 1823; died in Woodstock, Vt., Sept. 30, 1890. He was graduated at the University of Vermont in 1844; was admitted to the bar in 1848, and removing to San Francisco in 1849 was the first lawyer that opened an office in that city. His first client was John A. Sutter, on whose ranch James W. Marshall had first discovered gold. Soon after his arrival he formed a partnership with A. C. Peachy. Subsequently Gen. Henry W. Halleck was admitted to the firm and given charge of the Spanish and Mexican land title business, and afterward Trenor W. Park became a partner. The firm prospered greatly and held together till 1861, when Gen. Scott solicited Gen. Halleck to rejoin the army, and Mr. Billings went to England as the attorney of John C. Frémont in the matter of his Mariposa estate. Mr. Billings returned to San Francisco in 1863, resumed practice for two years, and then settled in Woodstock, Vt. In 1866, while taking a long journey for his health, he became impressed with the vastness and resources of the region of Oregon and Washington Territory, and was induced to purchase a twelfth interest in the Northern Pacific Railroad Company. In 1870 he became a director of the company, and organized and managed its land department. In 1875 he formulated the plan of reorganization by which its bonded debt was wiped out, and was appointed chairman of the executive committee, and in 1879 he was elected president of the company. He held this office till 1881, and in that time rapidly pushed the extension of the road and its connections, and largely advanced the value of its securities. When Henry Villard secured a majority of the company's stock, Mr. Billings retired from the presidency, but retained his stock and his seat in the directory. He then became interested in the construction of the Nicaragua Canal, and at the time of his death was chairman of the executive committee of the company, and a director in the construction company. In his life-time Mr. Billings presented the University of Vermont with a library building at a cost of \$200,000; purchased and gave the library, the rich collection of 12,000 volumes on philology, European literature, and history gathered

by George P. Marsh; gave the library, an endowment of \$50,000; rebuilt the Congregational church at Woodstock at a cost of \$65,000; and built a church in the town of Billings, Montana, which was named for him. He bequeathed \$50,000 to Amherst College to endow a professorship, \$50,000 to Mr. Moody's school for boys at Northfield, Mass., and equally liberal sums to other institutions. He received the degree of LL. D. from the University of Vermont.

Blaine, Walker, lawyer, born in Augusta, Me., May 8, 1855; died in Washington, D. C., Jan. 15, 1890. He was the eldest son of Hon. James G. Blaine, and was graduated at Yale University in 1876. He then studied for two years in the Law School of Columbia College, and after being graduated there was admitted to the bar in his native State, and began practicing with Cushman K. Davis (now United States Senator) in St. Paul, Minn. In 1881, when his father entered the Cabinet of President Garfield as Secretary of State, Walker was appointed third assistant secretary, and soon afterward accompanied Hon. William H. Trescott on a special diplomatic mission to Chili, Peru, and Bolivia. Soon after his sailing for South America, notice was received in Washington of the death of Gen. Judson Kilpatrick, United States minister to Chili, and President Arthur appointed Mr. Blaine *chargé d'affaires* in that country. On the retirement of his father from the State Department, President Arthur appointed Walker assistant counsel for the United States before the Court of Commissioners of Alabama Claims. He held this office till the court ceased to exist, Jan. 1, 1886, and then removed to Chicago to practice law. In March, 1889, President Harrison appointed him solicitor of the State Department, in succession to Francis Wharton.

Blair, Samuel Steele, lawyer, born in Pennsylvania, in 1821; died in Holidaysburg, Pa., Dec. 8, 1890. In 1858 he was elected a Representative in Congress, in which he served as a member of the committee on private land claims; and in 1860 he was re-elected, and became chairman of his old committee and a member of several others. At the time of his death he was the oldest member of the Blair County bar.

Boker, George Henry, author, born in Philadelphia, Pa., Oct. 6, 1823; died there, Jan. 2, 1890. He was graduated at Princeton in 1843; was subsequently admitted to the bar, but never practiced; spent several years in European travel; and published his first volume of poems on his return to the United States in 1847. In the following year he published his first dramatic work, "Calynos, a tragedy," which was produced on the stage in England and the United States soon afterward, and was revived by Lawrence Barrett in the United States in 1883. From the appearance of these works he applied himself closely to poetic and dramatic composition, intermitting with periods of activity in political life. He was originally a Democrat, but joined the Republican party on its formation, and was constant to it through life. As a founder and active member of the Union League of Philadelphia and as a writer of war lyrics, he rendered the Union cause a hearty and fruitful service during the civil war. In 1872 he was appointed by President Grant United States minister to Turkey, in 1876 he was transferred to Russia, and in 1879 he resigned and returned home. His poetical works comprise: "The Lesson of Life" (Philadelphia, 1847); "Plays and Poems" (1856); "Poems of the War"



(1864); "Street Lyrics"; "Königsmark, and other Poems" (1869); and "The Book of the Dead" (1882). Among his notable poems are "The Ivory Carver," "The Podesta's Daughter," "Song of the Earth," "A Ballad of Sir John Franklin," and "A Dingo for a Soldier." His dramatic works are "Calaynos" (1848), "Anne Bolleyn," "Leonor de Guzman," "Francesca da Rimini," "The Widow's Marriage," and "The Betrothal."

Bomberger, John Henry Augustus, clergyman, born in Lancaster, Pa., Jan. 13, 1817; died in Collegeville, Pa., Aug. 19, 1890. He was graduated at Marshall College in 1837, and at Mercersburg Theological Seminary, in 1838; was a tutor in Marshall College while studying there; was ordained pastor of the German Reformed Church in Lewistown, Pa., in 1838; and held pastorates in Waynesborough, Easton, and Philadelphia till 1870, when he was chosen President of Ursinus College, at Collegeville, and of its theological department. He received the degree of D.D. from Franklin and Marshall College in 1864. Dr. Bomberger translated and condensed six volumes of Herzog's "Encyclopedia" into two in 1856-'62, and was prevented from completing the work by the civil war. His publications include "Infant Salvation in its Relation to Depravity, to Regeneration, and to Baptism" (Philadelphia, 1859); "Five Years at the Race Street Church, with an Ecclesiastical Appendix" (1869); "The Revised Liturgy, a History and Criticism of the Ritualistic Movement in the Reformed Church" (1866); and "Reformed, not Ritualistic, a Reply to Dr. Nevins' 'Vindication'" (1867). He also edited "The Reformed Church Monthly" in 1868-'77.

Bonham, Milledge L., lawyer, born in Edgefield, S. C., Dec. 25, 1813; died in White Sulphur Springs, N. C., Aug. 27, 1890. He was graduated at South Carolina College in 1834; served as major and adjutant-general of the South Carolina Brigade in the Seminole War in Florida in 1836, and was admitted to the bar in 1837. In 1840-'44 he was a Representative in Congress. During the Mexican war he was lieutenant-colonel and colonel of the Twelfth United States Infantry. In 1848-'57 he was solicitor of the Southern circuit, and in 1856-'58 was elected Representative in Congress from the Fourth South Carolina District as a Democrat. He served as a member of the Committee on Military Affairs till the secession of South Carolina, when he resigned. He was appointed a major-general of the South Carolina militia; was commissioned a brigadier-general in the Confederate army, April 19, 1861; commanded the center of Gen. Beauregard's army in the first battle of Manassas, and resigned his commission to enter the Confederate Congress, Jan. 27, 1862. In December following he was elected Governor of South Carolina, and in January, 1865, was again commissioned a brigadier-general in the army. He was serving with Gen. Johnston at the time of that officer's surrender.

Borgess, Casper Henry, clergyman, born in Adrup, Oldenburg, Germany, Aug. 1, 1826; died in Kalamazoo, Mich., May 3, 1890. When thirteen years old he accompanied his parents to the United States. He was graduated at St. Xavier's College and Seminary, and was ordained a Roman Catholic priest Dec. 8, 1848. For ten years he was pastor of the Church of the Holy Cross, Columbus, Ohio; was then made rector of the cathedral of Cincinnati and chancellor of the diocese, and after holding these offices for eleven years, was appointed Bishop of Caydon and administrator of the diocese of Detroit, on Feb. 8, 1870. He was consecrated on April 24 following, assumed at once the direction of the diocese, and became by succession second Bishop of Detroit in December, 1871. He remained in charge of his diocese till May, 1887, when he resigned.

Boudinot, Elias C., lawyer, born in the old Cherokee nation, near the present city of Rome, Ga., in 1835; died in Fort Smith, Ark., Sept. 27, 1890. He was a son of the Cherokee Indian chief Kill-kee-nah, who in early life assumed the name of Elias Boudinot, of

New Jersey, who had shown him many kindnesses. The father was killed in a tribal feud when the son was four years old, after the Indians had been removed to the Indian Territory. Young Elias was educated in Manchester, Vt., studied civil engineering, and, as his father's murderers had set a price on his head, spent several years in Washington, D. C. He also studied law and was admitted to the bar, and became an accomplished linguist and musician. He settled in Arkansas, and in 1860 was elected chairman of the Democratic State Committee. In the following year he became editor of the "True Democrat" in Little Rock, and major of a regiment of Cherokee Indians that he had recruited for the Confederate service. He also served in the Confederate Congress. Through his influence the Government made the treaty with the Cherokee Indians in 1868. As a politician he was noted for his persistent advocacy of the theory that the Federal Government should organize a special system for the Indian Territory, divide the land among the Indians in severalty, and extend to them the rights of citizenship, and for his opposition to the John Ross influence in the Cherokee tribe.

Bowen, Francis, educator, born in Charlestown, Mass., Sept. 8, 1811; died in Cambridge, Mass., Jan. 21, 1890. He was graduated at Harvard in 1833, and was appointed instructor in mathematics in Phillips Exeter Academy. In 1835 he returned to Harvard as tutor in Greek, and was soon appointed instructor of the senior class in mental and moral philosophy; in 1850 was appointed to the professorship of History; and in 1853 was transferred to that of Natural Religion, Moral Philosophy, and Civil Polity, which he held until his death. He opposed the doctrines of Darwin, and accepted those of Sir William Hamilton. He was editor and proprietor of "The North American Review" from 1843 till 1854, and editor of "The American Almanac" for six years. He translated many French and German philosophical works, and published "Behr's Translation of Weber's Outlines of Universal History, with the addition of a History of the United States" (1853); "Documents of the Constitutions of England and America, from Magna Charta to the Federal Constitution of 1789" (1854); "The Principles of Metaphysical and Ethical Science applied to the Evidences of Religion" (1855); "Dugald Stewart's Philosophy of the Human Mind, revised and abridged, with Critical and Explanatory Notes" (1854); "The Principles of Political Economy applied to the Conditions and Institutions of the American People" (1856); "The Metaphysics of Sir William Hamilton, collected, arranged, and abridged" (1862); "De Tocqueville's Democracy in America, edited with Notes" (1862); "A Treatise on Logic, or the Laws of Pure Thought, comprising both the Aristotelic and the Hamiltonian Analyses of Logical Forms" (1864); "American Political Economy" (1870); "Modern Philosophy from Descartes to Schopenhauer and Hartmann" (1877); "Gleanings from a Literary Life" (1880); and "A Layman's Study of the English Bible, considered in its Literary and Secular Aspect" (1886).

Bowen, John Elliot, journalist, born in Brooklyn, N. Y., in June, 1858; died there, Jan. 3, 1890. He was a son of Henry Chandler Bowen, proprietor of "The Independent"; was graduated at Yale University with the highest honors of his class in 1871; soon afterward became an editor on "The Independent," and contributed to various American and European magazines. During the past eight years he traveled extensively in Europe, Asia, and Africa. He received the degree of Ph. D. from Columbia College in 1886. Among other works he published "The Conflict Between the East and West in Egypt" and "Songs of Toil."

Boyd, Robert, naval officer, born in Portland, Me., in 1834; died in Brooklyn, N. Y., July, 30, 1890. He was appointed an acting midshipman in the United States navy on Jan. 14, 1850; was promoted midshipman the same day; passed midshipman June 20, 1856; master, Jan. 22, 1858; lieutenant the day fol-

lowing; lieutenant-commander, July 16, 1862; commander, May, 20, 1871; captain, June 19, 1882; and was ordered on special duty at New York city Oct. 15, 1889. During his naval career he was on sea service twenty years and nine months, on shore or other duty twelve years and three months, and was unemployed six years and eleven months. He had commanded the "Vermont," the "Powhatan," the "Richmond," and the frigate "Tennessee" when it was the flagship of the North Atlantic squadron, and after the expiration of his last cruise, in September, 1888, was appointed supervisor of the harbor of New York, and held this office until made inspector of merchant vessels in the port of New York.

Boynton, John Farnham, inventor, born in Bradford, Mass., Sept. 20, 1811; died in Syracuse, N. Y., Oct. 20, 1890. He was educated at Columbia College, New York city; studied medicine and received his diploma in St. Louis, Mo.; and, after practicing a short time in several Eastern and Western cities, became a pioneer in the field of popular scientific lectures. He spent several years in traveling through nearly every State in the Union, lecturing on "Geology and the Natural History of Creation" and kindred subjects, and settled in Syracuse, N. Y., in 1845. At the beginning of the gold excitement in 1849 he went to California, and spent several years in successful mining operations. Returning to Syracuse, he laid out a famous peach orchard and applied himself to scientific study and invention. His first invention was the chemical apparatus for putting out small and incipient fires, which is now in almost universal use, and is known as the Babcock fire-extinguisher. This was followed by a soda fountain; a method of extracting gold from ore by the vacuum process; the first process for converting cast iron into malleable steel; the method of coloring buttons and glassware, now generally used; and a patent wall plaster, which he had nearly perfected at the time of his death. He received more than thirty patents. Dr. Boynton exposed the fraudulent representations concerning the "Cardiff Giant," furnished the press of New York city with daily bulletins on the condition of Dr. Henry S. Tanner during his memorable fast in 1880, and first called the attention of the public to the Tewksbury (Mass.) almshouse horror in 1883. He completed, but did not live to publish, a genealogy of the Boynton family.

Bruce, Charles Loring, philanthropist, born in Litchfield, Conn., June 19, 1826; died in the Tyrol, Switzerland, Aug. 11, 1890. He was graduated at Yale

d'affaires at Vienna, he was released with ample apologies by the Austrian Government, and returned to the United States in 1852. The same year he became active in missionary work in New York city, and on the islands in the East river, and was one of the founders of the Children's Aid Society. In the following year he became its secretary and executive agent, and he remained in this office till his death. In 1854 he established the first Newsboys' Lodging House in the city, in 1855 an Italian Industrial School, and in 1856 a German Industrial School. He devoted the remainder of his life to work among the youth and the poor of the city; was a delegate to the International Convention of Children's Charities in London in 1856; made a sanitary investigation of the chief cities in Great Britain in 1865; and was a delegate to the International Prison Congress in London in 1872. His work in New York city became known throughout Europe, and his advice was sought for countless enterprises having the improvement of the condition of the poor and of youth in view. For more than twenty years he was an editorial writer for the New York "Times" and a contributor to its book reviews, generally confining himself to theological and philanthropic subjects. His publications include "Hungary in 1851" (New York, 1852); "Home Life in Germany" (1853); "The Norse Folk" (1857); "Short Sermons to Newsboys" (1861); "Races of the Old World" (1863); "The New West" (1868); "The Dangerous Classes of New York, and Twenty Years' Work among them" (1872, third edition, 1880); "Free Trade as promoting Peace and Good-Will among Men" (1879); "Gesta Christi, or a History of Humane Progress under Christianity" (1883, third edition, 1885); and "To the Unknown God" (1889).

Bronson, Sherlock Anson, educator, born in Waterbury, Conn., April 21, 1807; died in Mansfield, Ohio, May 7, 1890. When he was a few months old his parents settled fifteen miles from Cleveland, which then had but three log cabins. He attended the pioneer settlers' school in winter and worked on his father's farm in summer till his sixteenth year, when he began teaching. In 1826 he was appointed assistant principal of the Norwalk Academy, Ohio. He was graduated at Kenyon College in 1833, and was ordained a minister of the Protestant Episcopal Church, in Cincinnati, in 1835. After serving one year as a missionary in Lancaster, Ohio, he settled in Granville, Ohio, in 1837, and remained there till 1845. In September, of that year, he was chosen President of Kenyon College, and, after holding the office five years, resigned to accept the rectorship of Grace Church, in Sandusky, Ohio, which he held for sixteen years. He then returned to Kenyon College and was Professor of Theology in its seminary for five years, besides editing the "Western Episcopalian." He was chosen rector of Grace Church, Mansfield, Ohio, in June, 1872, and officiated there till 1888, when he retired from active service. He received the degree of D. D. from Geneva College, N. Y., in 1846, and that of L. L. D. after settling in Mansfield. He was a trustee of Kenyon College for many years, and published a "Life of John Sherman" (1880). Dr. Bronson was a life-long friend of Senator Sherman, who writes that his life was "honorable in all its parts, and in some respects very interesting."

Brown, George William, lawyer, born in Baltimore, Md., Oct. 13, 1812; died at Lake Mohonk, N. Y., Sept. 6, 1890. He was graduated at Rutgers College, in 1831, studied law, and was admitted to the bar in Baltimore. In 1842 he led a bitter fight against the "Shareholders' Convention" and its resolutions; in 1858 organized the "Reform Association" for the purification of election methods; and in 1860 was elected mayor of the city on the Reform ticket. During his administration, on April 19, 1861, occurred the attack by a Baltimore mob on the Sixth Massachusetts Regiment while on its way to the defense of Washington. As soon as Mayor Brown heard the disturbance, he rushed from his office, placed himself at the head of the regiment, and marched with it to the boat-



College in 1846, studied theology at the Yale Divinity School in 1847-'48 and at Union Theological Seminary in 1848-'49, made a pedestrian tour of Great Britain and Ireland in 1850, and was arrested and tried by court-martial, on suspicion of being a secret revolutionary agent, at Gros Wardein, Hungary, in 1851. Through the efforts of the American charge

landing. He afterward claimed that the Federal authorities had given him no notice of the intended passage of the troops so that he could have provided police protection, and that the fatalities occurred after he had returned to his office, supposing that all the troops had embarked. President Lincoln complimented him for his conduct. On Sept. 12 Mayor Brown and several members of the State Legislature were arrested by the Federal authorities, and were confined in various forts till the expiration of his term of office. In 1867 he was a member of the State Constitutional Convention, and from 1873 till 1888 he was chief justice of the Maryland Supreme Court. He was a founder of the Maryland Historical Society, a trustee of the Peabody Institute and of Johns Hopkins University, a regent of the Maryland State University, and a visitor at St. John's College. He was also one of three compilers of the first "Digest of the Decisions of the Court of Appeals."

Brown, James Muncaster, banker, born in Baltimore, Md., Dec. 8, 1820; died in Manchester, Vt., July 19, 1890. He was educated in his native city, entered the banking house of Alexander Brown & Son, the Baltimore branch of the New York firm of Brown Brothers & Co., in 1834, removed to New York city and entered the main office in 1844, and became a member of the firm in 1860. He was a cousin of James Brown, who founded the firm in 1826. After settling in New York city he began to take an active interest in its religious, benevolent, and charitable institutions; and at the time of his death he was president of the New York Hospital, the Bloomingdale Asylum, and the American Society for the Prevention of Cruelty to Animals, an ex-president of the Chamber of Commerce, and a liberal supporter of the Sailors' Snug Harbor, the Chambers Street Hospital, and the Protestant Episcopal Church. He bequeathed \$5,000 each to the American Bible Society, the American Tract Society, the Society of St. Johnland, and St. Luke's Hospital, and \$2,500 each to the Foreign Committee of the Board of Missions of the Protestant Episcopal Church and the Children's Aid Society.

Bucknell, William, philanthropist, born in Delaware County, Pa., April 1, 1811; died in Philadelphia, Pa., March 5, 1890. He was self-educated, and for many years was successfully engaged in erecting gas and water-work plants for cities and railroad corporations. From the time he began acquiring wealth he made it a rule to give at least one tenth of his income annually to religious and educational enterprises. He was a strong adherent of the Baptist Church and made its institutions the objects of his special benefactions. He endowed the old University of Lewisburg, Pa., with \$268,000, and its name was changed to Bucknell University. He contributed largely to the erection of the Baptist Publication House in Philadelphia, established the Baptist Rangoon Mission in India, and for many years supported ten missionaries in that country, presented more than 200 libraries that cost him \$52,000 to as many churches and mission stations, gave \$50,000 and otherwise aided in extinguishing nearly \$200,000 of church debts in 1882, and was a promoter of the Baptist Education Society. His benefactions are believed to have aggregated \$1,120,000.

Buerger, Ernst M., clergyman, born in Arnsfeld, Germany, about 1805; died in Buffalo, N. Y., March 22, 1890. He was graduated at the University of Leipzig in 1829, entered the Lutheran ministry soon afterward, and removed to New Orleans with his entire congregation in December, 1838, the year in which about 800 Lutherans left their native country for the United States. With many of his Saxon co-religionists, he settled in Perry County, Mo., and after losing his wife and two of his children by death, he removed to Buffalo in 1841, and was elected pastor of a Lutheran congregation there which had emigrated from Prussia. His labors resulted in the incorporation of the First Evangelical Lutheran Trinity congregation in 1844, which has since acquired a handsome church edifice and a commodious school house. He resigned this pastorate in 1851, and accepted one

in West Seneca, where he remained till 1855; then had charge of the Evangelical Lutheran Trinity Church in Washington till 1870; and from 1870 till 1888 held pastorates in Hart and Rushford, Minn., removing to Buffalo in the latter year. He was one of the most distinguished men in the history of the German Evangelical Church in America, not only as a pioneer, but as a speaker, theological writer, hymnologist, and poet. In 1879 the Lutherans of Missouri, Wisconsin, Minnesota, and New York celebrated the semi-centennial of his entering the ministry.

Bunce, Oliver Bell, author, born in New York city, Feb. 8, 1828; died there, May 16, 1890. He came of good English stock on both sides. He did not have the advantage of a university education, but his literary aptitudes showed themselves at an early age in a great passion for books and in contributions to news-



papers. Compelled by family circumstances to enter business when very young, he became a clerk in the stationery house of Jansen & Bell, the latter of the two partners being his uncle. Here he remained till after his twentieth year, but in the mean time his talent had shown itself in the form of dramatic composition, and two of his plays were accepted and produced on the stage with a considerable degree of success. These were "Fate, or the Prophecy," a tragedy in blank verse, played by James W. Wallack; and "Love in '76," a comedy produced by Miss Laura Keane, with herself in the leading woman rôle. Another play, an heroic tragedy, "Marco Bozzaris," was shortly afterward accepted and acted by James W. Wallack. Mr. Bunce now turned his attention to authorship in a series of historic and legendary sketches, collected in book form as "The Romance of the Revolution," in which the leading episodes of the colonial struggle for independence were depicted. He became the principal member of the book-publishing firm of Bunce & Brother at the age of twenty-six, and acted as editor as well as publisher of Mrs. Ann S. Stephens's "Monthly," which in its time had considerable vogue. Mrs. Stephens's novel "Fashion and Famine," published by this firm, had one of the great successes of its time among current novels. After several years of struggle to do business on insufficient capital the firm was abandoned, and Mr. Bunce became manager of the publishing house of James G. Gregory, which he conducted very successfully for the estate for a number of years after the death of the principal. It was mainly through his instigation that the fine edition of Cooper's novels, illustrated in steel and wood by F. O. C. Darley, was planned and published. Mr. Bunce about this time became the pioneer in a kind of fine-art publishing now so widely practiced, beautifully illustrated poems for holiday sale, and brought out "In the Woods with Bryant, Longfellow, and Halleck," illustrated by John A. Hows. This work was almost the first of its class.

In 1860 Mr. Bunce wrote two novels, "A Bachelor's Story" and "Life before Him," published by W. A. Townsend & Co., and three years later his novel "Bensley" was issued under the imprint of Gregory. After winding up the business affairs of the house, of which he had been an able manager, he was for a short time literary reader in the firm of Harper & Brothers. In 1867 he formed that connection with D. Appleton & Co. which terminated only with his life. When "Appletons' Journal" was established, in 1869, he was made associate editor; and on the retirement of Robert Carter, in 1872, he took sole charge of the periodical. Out of the early numbers of this weekly the conception of "Picturesque America," one of the great publisher's successes of the period, assumed rapid shape. Mr. Harry Fenn's illustrations of several descriptive papers, notably those dealing with Florida and Mount Desert, both of them then comparatively little known to pleasure seekers, were so striking as to suggest continued work in the same direction but on a more elaborate scale and in a different form. Mr. Bunce's discussion with the firm, specially Mr. George Appleton and Mr. W. W. Appleton, finally shaped the enterprise of reproducing the saliently picturesque features of the United States with pen and pencil, and the work was issued in monthly parts. Of this great work Mr. Bunce had sole editorial charge, both on its artistic and literary sides, though Mr. William Cullen Bryant was nominal editor and contributed the preface. The ability with which he fulfilled this task had much to do with the success of the enterprise. Two companion publications, "Picturesque Europe" and "Picturesque Palestine," also owed much to his attention and supervision. His duties were manifold at this period, and he conducted simultaneously with the above-named works the editorial duties of "Appletons' Journal," and of the American edition of the "Art Journal." In addition to his office business, Mr. Bunce's literary ambition kept him constantly at work in spite of chronic invalidism. During the last dozen years of his life he produced successively: "Bachelor Bluff: His Opinions, Sentiments, and Disputations," a series of sparkling talks on art, literature, and society; "Timias Terrystone," a novel; "Don't"; "My House, an Ideal," a graphic study of a country home; and "The Story of Happinoland," a collection of sketches and essays. "Don't," a creed of social negations, was, in a small way, one of the great successes of the period. In addition to its great sale at home, it was translated into several foreign languages, passed through many editions, and was imitated extensively in similar books. For more than twenty years Mr. Bunce was a sufferer from consumption, and every day was a struggle with ill health borne with heroic fortitude. In spite of difficulties which would have daunted most men, his industry and application to his duties were incessant. His functions as a publisher brought him in contact with most of the literary men and artists of the country, and his wide sympathies and nobility of character made him generally beloved and esteemed. To his encouragement and discovery of budding talent more than one well-known author and painter owe their successful beginnings. Both as a writer and as a man of business Mr. Bunce had great suggestiveness and fertility of thought, and as a brilliant conversationalist few men were his equals. He was one of the earliest members of the Authors' Club, an institution which includes most of the notable writers of the country.

Butler, Clement Moore, clergyman, born in Troy, N. Y., Oct. 16, 1810; died in Germantown, Pa., Feb. 5, 1890. He was graduated at the present Trinity College, Hartford, in 1833, and at the General Theological Seminary, New York, in 1836; was pastor of Protestant Episcopal Churches in New York city, Boston, Washington, and Georgetown from 1837 till 1854, and chaplain of the United States Senate from 1849 till 1853; was rector of Christ Church, Cincinnati, from 1854 till 1857, and of Trinity Church,

Washington, from 1857 till 1861; and was rector of Grace Church, Rome, Italy, and chaplain to the United States minister there from 1861 till 1864. On his return to the United States in 1864, he was chosen Professor of Ecclesiastical History in the Protestant Episcopal Divinity School, Philadelphia, and he held the office till failing health constrained him to resign in 1884. Dr. Butler was an intimate friend of Webster, Clay, and Calhoun, and the latter, while on his death-bed, ordered a silver cup to be made and presented to him as a token of his esteem. Dr. Butler published "The Year of the Church" (Utica, 1840); "The Flock fed" (New York, 1845); "The Book of Common Prayer interpreted by its History" (Boston, 1846, enlarged edition, Washington, 1849); "Old Truths and New Errors" (New York, 1848); "Lectures on the Revelation of St. John" (1850); "Addresses in Washington" (Cincinnati, 1858); "Ritualism of Law" (1859); "St. Paul in Rome" (Philadelphia, 1865); "Inner Rome" (1866); "Manual of Ecclesiastical History, from the First to the Nineteenth Century" (2 vols., Philadelphia, 1868 and 1872); "History of the Book of Common Prayer" (1879); and "History of the Reformation in Sweden" (New York, 1883).

Calanan, Marie Elizabeth, philanthropist, born in Ireland, in 1816; died in New York city, Dec. 7, 1890. She was the daughter of a wealthy brewer, became a widow after one year of married life, and entered the Order of the Sisters of Mercy in Ireland, giving it a considerable fortune for charitable work. In 1852 she came to the United States. At the outbreak of the civil war she volunteered, with a band of Sisters, for service in the hospitals and on the field, and after spending nearly a year with the National armies, went to Albany, N. Y., and founded a convent of her order. Two years afterward she founded a similar institution in Worcester, Mass., and, then removing to New York city, founded St. Joseph's Home for Destitute Children, in which she gathered the waifs that the city was supporting on Randall's Island. She retained the supervision of this non-sectarian institution till fatally prostrated with pneumonia. She was known in religion as Mother Elizabeth, and was the only living member of a family of five who devoted their lives to religious work.

Campbell, Andrew, inventor, born near Trenton, N. J., June 14, 1821; died in Brooklyn, N. Y., April 13, 1890. He received a common-school education, and after working on a farm was apprenticed to a carriage maker and a brush maker successively. Neither trade proved attractive to him and he determined to go West, but before setting out, when sixteen years old, perfected his first invention, a brush-drawer's vise, which afterward was almost universally used. He settled in St. Louis in 1842, and for some time supported himself by making brushes. In 1844 he was called upon to repair a printing press in the office of the Columbia "Statesman," and he became so deeply interested in its mechanism that when George Bruce, of New York city, published an offer of \$1,000 for a press that would print 500 sheets an hour, he undertook to provide one; but his plans were received after the expiration of the allotted time. In 1853 he went to New York, and, while studying the exhibits in the World's Fair, invented a press-feeding machine with a capacity of 40 sheets an hour. The firm of A. B. Taylor & Co. took his plans, built a machine, and appointed him a foreman in their manufactory. He remained with the firm five years, and built for Harper & Brothers and for Frank Leslie the first presses ever produced with table distribution and automatics. In 1858 he opened a factory of his own, and continued in active business till 1880, when he retired. During this period he made the first registering power printing press for color work (1861); the two-revolution book press (1866); an art press for fine illustration work (1868); a press on which 125 almanacs were printed per minute, and on which 7,000,000 impressions were taken from one form without damage to the plates; a press that printed 12,000 copies of the Cleveland "Leader" in an hour; and the first press

that printed, inserted, pasted, folded, and cut in a continuous operation. He received altogether about fifty patents for improvements on the printing press.

Campbell, James V., lawyer, born in Buffalo, N. Y., Feb. 25, 1823; died in Detroit, Mich., March 26, 1890. When three years old he accompanied his parents to Detroit. He was graduated at St. Paul's College in 1841, and admitted to the bar in 1844. He practiced with success till 1857, and was then elected a judge of the Supreme Court of Michigan, an office to which he was re-elected at every succeeding election, and was chosen Chief Justice for nine terms in succession. He was Professor of Law in the University of Michigan from the organization of that department, a member of the standing committee of the Protestant Episcopal diocese of Michigan, and author of "The Political History of Michigan." Judge Campbell was a Whig till 1854, and afterward a Republican.

Campbell, William Henry, educator, born in Baltimore, Md., Sept. 14, 1808; died in New Brunswick, N. J., Dec. 7, 1890. He was graduated at Dickinson College in 1828, took the course in Princeton Theological Seminary, and was licensed to preach by the Second Presbytery of New York in 1831. In 1831-'32 he was pastor of the Reformed Church in Chittenango, N. Y.; in 1833-'39 was principal of Erasmus Hall in Flatbush, L. I.; in 1839-'41 held a pastorate in East New York; in 1841-'48 was pastor of the Third Reformed Church in Albany, N. Y.; and in 1848-'51 was principal of the Albany Academy. In the latter year he was appointed Professor of Oriental Literature in the Theological Seminary in New Brunswick, N. J., and while occupying that chair was also Professor of Belles-Lettres in Rutgers College till 1863, when he was elected president of the college. He held the presidency till 1882, when failing health induced him to resign, but for several years thereafter he remained with the institution as Professor of the Evidences of Christianity. In 1885 he organized the Fourth Reformed Church in New Brunswick, and served it as pastor and pastor *emeritus* till his death. He received the degree of D. D. from Union College.

Chapman, Orlow W., lawyer, born in Ellington, Conn., in 1832; died in Washington, D. C., Jan. 19, 1890. He was graduated at Union College in 1854; spent two years as Professor of Languages in Fergusonville Academy, Delaware County, N. Y.; studied law, and was admitted to the bar in 1853. In 1862 he was appointed district attorney in Binghamton, to fill a vacancy, and in the ensuing autumn he was elected to the office, which he held by re-election till 1868. In 1870 and 1871 he was a member of the New York State Senate, and at the close of his term he was appointed superintendent of the State Insurance department, retaining the office till 1876. On March 29, 1889, he was appointed United States solicitor-general, and he occupied that office at the time of his death.

Chase, Nelson, litigant, born in Otsego County, N. Y., about 1800; died in Ridgewood, N. J., March 18, 1890. He began studying law at an early age, and while a student became acquainted with Madam Jumel, the wealthy friend of Aaron Burr, and with her niece Mary Jumel Bownes, or Bowen. On Madam Jumel's return to New York, she induced Mr. Chase to accompany her, and soon afterward sent him on a legal errand to Aaron Burr, who admitted him to his office as a law student. He finished reading with Burr, and began practice. Two years after his admission to the bar he married Mary Bowen, and made his home in the famous Jumel mansion on Washington Heights, New York. His wife died in 1843, and Madam Jumel in 1855; but between these events he had begun in the courts the memorable contest for the Jumel property in behalf of his children. The first contest and the subsequent litigation were based on the act of Madam Jumel in 1827, when she conveyed all of her property to her niece Mary, at the same time requiring of her a deed authorizing Madam Jumel to use, rent, lease, or sell the property as she might desire. The conveyance was never revoked, and when Mr. Chase began suit to perfect his title,

he was met with counter-suits brought by the heirs of Stephen Jumel and by George Washington Bowen, who declared himself a natural son of Madam Jumel. In 1857 Madam Jumel sold a part of the Washington Heights property, apparently without the knowledge of Mr. Chase, who had continued to live in the mansion after the death of his wife. The death of Madam Jumel left two kinds of property—that which she received from her husband, and that which she had personally acquired—in seeming hopeless entanglement; and it brought the whole estate, by a variety of suits, into the courts. After about twelve years of litigation, Judge Blatchford, in the United States Supreme Court, decided in favor of Mr. Chase in his suit against Mr. Bowen, holding that the Chase children had been defrauded by Madam Jumel in her sale of a part of the property, valued at \$305,000, and that they were entitled to an injunction to prevent Mr. Bowen from prosecuting his suit for the property that Madam Jumel had personally acquired. From this decision Mr. Bowen appealed to the United States Supreme Court, and there secured a reversal, which legalized Madam Jumel's transfers and made the Chase children heirs only to such of the property as she owned in 1827 and had not afterward sold. After this, Chase and Bowen carried on their counter-suits under various pretexts till within three years, when they agreed to the sale of the property and the disposition of the proceeds according to the decision of the United States Supreme Court. Mr. Chase, who in the mean time had married a second time, then bought the Isaac W. England property at Ridgewood, N. J., and lived there quietly till his death. He acknowledged that he was seventy-five years old; but those familiar with the events of his life believe he was at least ninety.

Cheever, George Barrell, clergyman, born in Hallowell, Me., April 17, 1807; died in Englewood, N. J., Oct. 1, 1890. He was graduated at Bowdoin College, in the class with Henry W. Longfellow, Nathaniel Hawthorne, and Jonathan Cilley, in 1825, and at Andover Theological Seminary in 1830; and was ordained pastor of the Howard Street Congregational Church, in Salem, Mass., in 1833. He held that charge three years, then spent two years in Europe; was pastor of the Allen Street Presbyterian Church, in New York city, in 1839-'44; editor of the New York Evangelist in 1845; and pastor of the Church of the Puritans in New York city from 1846 till 1870, when he retired from active pastoral labor, and gave his New York residence to the American Board of Commissioners for Foreign Missions and the American Missionary Society, for their joint use. He was a staunch advocate of total abstinence and of the abolition of slavery, contributed many letters to the religious and daily press on public questions, and composed numerous hymns. He received the degree of D. D. from the University of the City of New York, in 1844. Among his numerous publications were: "Inquire at Amos Giles's Distillery" (Salem, 1835), for which he was tried and imprisoned thirty days for libel; "God's Land in America" (New York, 1841); "Lectures on Hierarchical Despotism" (1842); "Lectures on the Pilgrim's Progress" (1843); "Journal and Diary of the Pilgrims of Plymouth" (1848); "The Hill Difficulty, with other Miscellanies" (1849); "Punishment by Death; its Authority and Expediency" (1849); "Windings of the River of the Water of Life" (1849); "Wanderings of a Pilgrim in the Alps" (1850); "A Reel in a Bottle, for Jack in the Doldrums" (1850, revised 1855); "Voices of Nature to her Foster-Child, the Soul of Man" (1852); "Powers of the World to Come" (1853); "Discipline of Time for Life and Immortality" (1854); "Life, Genius, and Insanity of Cowper" (1856); "God against Slavery" (1857); "Right of the Bible in our Public Schools" (1858); "Guilt of Slavery demonstrated from the Hebrew and Greek Scriptures" (1860); "Faith, Doubt, and Evidence" (1881); and "God's Timepiece for Man's Eternity" (1883). In his will he bequeathed \$14,000 to the

American Board of Commissioners for Foreign Missions; \$3,000 to the American Home Missionary Society; \$2,000 to the American Missionary Association; \$1,000 to the Home for Friendless Boys in New York city; the stereotype plates of the revised edition of "A Reel in a Bottle," entitled "The Log-Book of a Voyage to the Celestial Country," to the American Seamen's Friend Society; and \$2,000 to the same society to enable it to keep the volume in print for continued circulation among seamen.

Childs, Casper C., journalist, born in Stratford, Conn., Dec. 3, 1803; died in New York city, April 4, 1890. He received a common-school education in his native town, and took a collegiate course in Pittsfield, Mass. Removing to New York city, he apprenticed himself to the printer's trade, and on completing his time, opened a printing office of his own. In 1833 he established the "Jeffersonian," a strong Democratic organ, and subsequently became the publisher of the "National Democrat" and one of the founders of the "Daily News." As his business increased, he began to take an active interest in local and national politics. He entered the Tammany Society, was elected a sachem and its secretary, and received the appointments of public printer, deputy commissioner of jurors, and deputy tax collector.

Chisholm, Walter Scott, lawyer, born in Liberty County, Ga., in 1836; died in Savannah, Ga., Dec. 5, 1890. He was graduated at the University of Georgia in 1857, and immediately afterward was admitted to the bar in Savannah. He acquired a large and lucrative practice, served a short time in the Confederate army, and after the war was elected judge of the city court of Savannah. In 1880 he removed temporarily to New York city, on becoming connected with the Southern systems of railroads, and at the time of his death was Vice-President of the Plant System and a director of the Richmond Terminal and the Central Georgia Railroad Companies.

Christiancy, Isaac Peckham, lawyer, born in Johnstown, N. Y., March 12, 1812; died in Lansing, Mich., Sept. 8, 1890. He was educated in the academies of Ovid and Kingsborough, N. Y.; studied law; removed to Monroe, Mich., in 1836; was soon afterward admitted to the bar, and was prosecuting attorney for Monroe County from 1841 till 1846. About this time he became active in politics, leaving the Democratic party to promote the Free-Soil movement. In 1848 he was a delegate to the Buffalo convention, in 1850-'52 was a State Senator, in the latter year was the unsuccessful Free-Soil candidate for Governor, and in 1856 was a delegate to the first National Republican Convention in Philadelphia. In the following year he became editor and proprietor of the "Monroe Commercial," and was an unsuccessful candidate for United States Senator. In 1857 he was elected a judge of the Supreme Court of Michigan, and he was re-elected in 1865 and 1873, and was chosen chief justice in 1872. He was United States Senator from 1875 till 1879, when he resigned on the ground of failing health. He then served two years as United States minister to Peru, and on his return in 1881 was the plaintiff in a sensational suit for divorce against his wife, who had been a clerk in the Treasury Department, and who died a maime in Brooklyn, N. Y., in 1883. Judge Christiancy was a man of profound learning, and a judge of the highest probity, and he held the confidence and esteem of all who knew him throughout his unfortunate marital troubles.

Chubb, Thomas, mariner, born in Charlestown, Mass., June 12, 1809; died in Post Mills Village, Vt., Aug. 28, 1890. When nine years old he ran away from home, shipped on board the United States frigate "Java," and spent nearly five years in the navy. Subsequently he entered the mercantile marine service, became commander of a large merchantman, engaged in the West India trade, and was for many years established on long wharf in Boston. At the beginning of the struggle for Texan independence he bought, armed, and equipped a schooner, took her to Galveston, and offered her with his services to Gen.

Houston. In return for his services he was appointed admiral of the navy of the Texas Republic. After the admission of Texas into the Union, he engaged in piloting in the waters of the Gulf of Mexico, making his home in Galveston. He early volunteered for service in the Confederate navy, commanded the "Royal Yacht," and was captured in a hand-to-hand fight by the present Rear-Admiral Jouett, of the United States navy. He was taken North, imprisoned, and condemned to be executed; but President Davis saved him by threatening to retaliate tenfold if the sentence were carried out. In 1882 he was appointed harbor master of Galveston, and he held the office till his death. In his early days he built and conducted the Federal Theatre in Boston, and bought and managed a large traveling circus.

Clafin, Aaron, merchant, born in Milford, Mass., Feb. 20, 1807; died in Brooklyn, N. Y., Jan. 7, 1890. He was a son of John Clafin, and was the only brother of Horace B. Clafin, with whom he received an academic education in his native town. After leaving school the brothers became clerks, then formed a partnership and conducted a general store for several years, Horace applying himself particularly to the dry-goods department, and Aaron to the boot and shoe and straw-goods trades. Their partnership began in Milford, and was continued in Worcester till about 1840, when Aaron withdrew to engage wholly in the straw-goods trade. During his business trips to New York and Southern cities he took with him samples of Milford boots and shoes, and as his trade in this line soon became larger than that in straw goods, he established a house in New York in 1841, and afterward made a specialty of Milford footwear. He built a factory in his native town, and was a manufacturer, dealer, and auction operator.

Coburn, Joseph, pugilist, born in County Armagh, Ireland, July 4, 1835; died in New York city, Dec. 6, 1890. He came to New York city when eight years old, joined the volunteer fire department when twenty-two, learned the brick-laying trade, and made his first appearance in the pugilistic ring in 1858, when he defeated Harry Gribbin at Harper's Ferry, Va. In 1863 he won the championship of America by defeating Mike McCool; in 1867 defeated Patsy Flynn, of England, on a challenge; in 1868 he agreed to fight Jem Mace for \$5,000 a side and the championship of the world, in Ireland, but Mace backed out and forfeited his deposit; and in 1872, after several attempts to meet Mace in the ring, Coburn fought him for nearly four hours at Bay City, Miss., when the referee called the fight a draw. Since then he had appeared frequently in sparring matches and "scientific bouts," had served a term in State prison for shooting a policeman, and had been engaged in the saloon business.

Coffin, John Huntington Crane, mathematician, born in Wiscasset, Me., Sept. 14, 1815; died in Washington, D. C., Jan. 8, 1890. He was graduated at Bowdoin College in 1834, and in January, 1836, entered the United States navy as Professor of Mathematics. From 1836 till 1843 he served on board the "Vandalia" and "Constellation" of the West India squadron, at the Norfolk Navy Yard, and on the Florida surveys. He was placed in charge of the mural circle in the United States Naval Observatory, Washington, in 1843, and continued in that capacity until 1853, when he was assigned to the charge of the Department of Mathematics at the United States Naval Academy in Annapolis, and later had charge of the department of astronomy and navigation. In 1865 he was appointed to the charge of the "American Ephemeris and Nautical Almanac," then issued in Cambridge, Mass., but in 1867 its place of publication was transferred to Washington, D. C., whither Prof. Coffin then removed and remained its chief officer until 1877, when he was placed on the retired list, having been senior Professor of Mathematics since 1848. The degree of LL. D. was conferred upon him by Bowdoin in 1884, and he was a member of the American Academy of Arts and Sciences, the Amer-

ican Philosophical Society, and in 1863 became one of the corporate members of the National Academy of Sciences, named by act of Congress, of which organization he was for several terms the treasurer. Besides many shorter articles and certain contributions to encyclopedias, Professor Coffin published "Observations with the Mural Circle at the United States Naval Observatory, with Explanations, Formulas, Tables, and Discussions, 1845-'49," in the volumes of the Observatory for those years; "The Compass"



(1863); "Navigation and Nautical Astronomy" (New York, 1868); the last two were prepared for use in the United States Naval Academy; "The American Ephemeris and Nautical Almanac," edited (1868 till 1879); also "Personal Errors in Observations of the Declination of Stars," in Dr. Benjamin A. Gould's "Astronomical Journal" (1850), and "Observations of the Total Eclipse of the Sun, August, 1869," made at Burlington, Mount Pleasant, and elsewhere in Iowa, under his direction (Washington, 1884).

Collier, Robert Laird, clergyman, born in Salisbury, Md., Aug. 7, 1837; died near that place, July 27, 1890. He was graduated at Boston University in 1858, studied theology in Concord, N. H., entered the ministry of the Methodist Episcopal Church, was pastor of the Church of the Messiah in Chicago in 1861-'64, and became a Channing Unitarian in 1866. He was pastor of the Second Church in Boston in 1876-'80; supplied pulpits in Leicester, Bradford, and Birmingham, England, in 1880-'85; was appointed United States consul at Leipzig, in 1885, and afterward a special commissioner with Dr. Gould, of Johns Hopkins University, to collect labor statistics in Europe. After holding a pastorate in Kansas City, Mo., he returned to his birth-place. He had lectured and written in the United States and Great Britain on literary and social topics, and had published "Every-day Subjects in Sunday Sermons" (Boston, 1874); "Meditations on the Essence of Christianity" (1878); and "English Home Life" (1885). He received the degree of D. D. from Iowa University.

Cornell, Thomas, capitalist, born in White Plains, N. Y., Jan. 27, 1814; died in Rondout, N. Y., March 30, 1890. He received a public-school education, and in 1843 engaged in the steamboat transportation business between Rondout and New York city. From a humble beginning with small capital, he developed this business till it culminated in the large interests now controlled by the Cornell Steamboat Company, of which he was president until his death. He also was the founder and president from its organization of the First National Bank of Rondout, President of the Rondout Savings Bank, and principal owner of the Ulster and Delaware and the Kaaterskill Railroads, and of the Rhinebeck and Kingston ferry. The Wurts Street Baptist Church, in Rondout, was erected and supported chiefly by his efforts. Mr. Cornell was an active Republican, and was elected to Congress from the Fourth New York District in 1866 and 1880, and was also a delegate to the National Republican Convention at Chicago in 1884, and a presidential elector in 1888.

Corrigan, James Henry, educator, born in Newark, N. J., in 1844; died in Elizabeth, N. J., Nov., 26, 1890. He was a brother of Archbishop Michael A. Corrigan, of New York; studied for the ministry of the Roman

Catholic Church in St. Mary's College, Emmetsburg, Md., in the College of the Propaganda, Rome, Italy, and in Seton Hall College, South Orange, N. J.; and was ordained a priest in 1867. Immediately after his ordination he was appointed Professor of Philosophy and Ethics in Seton Hall College, and was subsequently made director of the seminary and vice-president of the institution. In 1876, when his brother resigned the presidency of the college to assume the office of Archbishop of New York, he succeeded him as president, and held the office, together with the chair of English Literature, till 1888. He then resigned to seek more active labor, and, after making a tour of Europe, accepted the pastorate of St. Mary's Church, in Elizabeth, where he remained until his death.

Cowles, Edwin, journalist, born in Austinburg, Ashtabula County, Ohio, Sept. 18, 1825; died in Cleveland, Ohio, March 4, 1890. He was a descendant of the Rev. Thomas Hooker, the pioneer clergyman of Connecticut, and son of E. W. Cowles, M. D. At an early age he was apprenticed to the printer's trade with Timothy Smead, and from 1844 till 1853 they were partners in the printing business in Cleveland. Mr. Cowles then became a member of the firm of Medill, Cowles & Co., publishers of the "True Democrat." In 1854 his partners removed to Chicago and bought the "Tribune" newspaper, and in the following winter a number of Whigs and Free-Soilers met in the editorial room of the old "Democrat"—whose name had been changed to the "Leader"—and formed the preliminary plans for a new political organization, which became the Republican party of Ohio. Mr. Cowles was an early and constant abolitionist, an aggressive Protestant, and the first champion of several reformatory measures that have since become laws of the land. He was postmaster at Cleveland from 1861 till 1866, and at the same time gave the national cause valuable editorial aid. He continued to be editor and proprietor of the "Leader" till 1866, when the paper was made a stock interest, with himself as business manager and subsequently as editor-in-chief. One of his editorials, "Now is the Time to abolish Slavery," written after the Battle of Bull Run, produced a wide sensation.

Cowles, John Phillips, educator, born in Colebrook, Conn., in 1805; died in Boston, Mass., March 11, 1890. He was graduated at Yale College in 1826, and for thirty-two years was principal of the Female Seminary at Ipswich, Mass., where among his pupils were Abigail Dodge ("Gail Hamilton") and Mrs. James G. Blaine. He was eminent as a classical scholar; was well versed in ancient Greek and Hebrew, as well as the Arabic, Italian, Spanish, and French languages; and, besides a large number of theological pamphlets and other works, published many articles in various magazines.

Crandall, Prudence. See Philleo, Prudence Crandall.
Crebs, John M., lawyer, born in Middleburg, Loudon County, Va., April 9, 1830; died in Carmel, Ill., June 26, 1890. He removed with his parents to Illinois in 1837, received a common-school education, studied law, and was admitted to the bar in 1852. Removing to White County, Ill., he practiced his profession there till 1862, when he entered the national service as a lieutenant-colonel. He took part in the Mississippi, Vicksburg, and Arkansas campaigns, commanded a brigade of cavalry in the Department of the Gulf, and after the close of the war resumed practice. In 1868 and 1870 he was elected to Congress from the Thirteenth Illinois District as a Democrat, and he served as a member of the committees on Agriculture and on the District of Columbia.

Crocker, John Simpson, military officer, born in Cambridge, N. Y., March 4, 1829; died in Washington, D. C., Sept. 14, 1890. He was admitted to the bar when twenty-one years of age, and began practicing in Cambridge, Washington County, N. Y. He served in the State Legislature, became an intimate friend of Gov. Edwin D. Morgan, and at the outbreak of the civil war organized a regiment, which he named the Morgan Rifles, and which was mustered into the national service as the Ninety-third New York Volun-

teers. He accompanied the regiment to the front as its colonel, and, under assignment to the Army of the Potomac, his command was made the headquarters guard under Generals McClellan, Hooker, Meade, and Burnside. In 1863 he was captured and was confined in Libby, Salisbury, and Belle Isle prisons till exchanged for Col. Chancellor, of the Confederate army. Subsequently he took part in every battle of the Army of the Potomac, was wounded three times at the Wilderness and again at Spotsylvania Court House, and for gallantry at the latter was promoted brigadier-general. After the war he settled in Washington, was president of the old Board of Aldermen, and was warden of the jail from 1869 till his death.

Crutchfield, William, farmer, born in Greenville, Tenn., Nov. 16, 1826; died in Chattanooga, Tenn., Jan. 24, 1890. He received a common-school education; removed in early youth to McMinn County, Tenn., where he remained four years; settled in Alabama and engaged in farming in 1844; and made his permanent residence in Chattanooga in 1850. During the civil war he was one of the famous band of uncompromising Union men of Tennessee, and rendered the national armies important service as a guide, winning thereby the gratitude and friendship of Generals Grant, Rosecrans, and Thomas. After the war he applied himself to assisting ex-Confederates to re-establish themselves in business, and held several local offices. In 1872 he was elected to Congress from the Third Tennessee District as a Republican, and served in that body on the committees on Revolutionary Pensions and War of 1812 and on patents. He was a man of many eccentricities.

Cummings, Joseph, educator, born in Falmouth, Me., March 3, 1817; died in Evanston, Ill., May 7, 1890. He paid for a course of instruction in the Maine Wesleyan Seminary by his own labor; was graduated at Wesleyan University, Middletown, Conn., in 1840; taught in the High School in Augusta, Me., while preparing for his collegiate course, and after graduation was appointed teacher of mathematics in Armenia (N. Y.) Seminary, of which he was principal from 1843 till 1846. In the latter year he joined the New England Conference of the Methodist Episcopal Church. After holding pastorates in several cities, he was elected President of Genesee College, in Lima, N. Y., in 1853, and resigned in 1858 to accept the presidency of Wesleyan University. He held this office till 1875, was Professor of Mental Philosophy and Political Economy there till 1881, and was then elected President of the Northwestern University, in Evanston, Ill., where he remained until his death. He received the degree of D. D. from Wesleyan University in 1854, and that of LL. D. from Northwestern University in 1866. Dr. Cummings published numerous addresses and sermons, and edited Butler's "Analogy of Religion."

Cutter, George F., naval officer, born in Massachusetts, in 1820; died in Washington, D. C., Sept. 1, 1890. He was appointed a captain's clerk in the United States navy on April 19, 1838, and after serving on the "Cyane," in the Mediterranean squadron, till May 18, 1841, was appointed purser June 5, 1844. He was promoted paymaster June 22, 1860, and pay director March 3, 1871, and was retired Aug. 30, 1881. During his naval career he was on sea service twelve years and seven months, on shore, or other duty, twenty-two years and two months, and was unemployed ten years and ten months. He served on the United States brig "Truxton," off the coast of Africa, in 1844-'45; sloop "Albany," of the home squadron, in 1846-'49; and was captured by the Mexicans; receiving ship, at the Boston Navy Yard, in 1850-'54; steamer "Massachusetts," of the Pacific squadron, in 1854-'57; Portsmouth Navy Yard in 1858-'60; steam sloop "Richmond," of the Western Gulf blockading squadron, in 1861-'62; and flag ship "San Jacinto," as fleet paymaster of the North Atlantic blockading squadron, in 1863. In 1865-'67 he was inspector of provisions and clothing at the Boston Navy Yard; in 1868-'69 was fleet paymaster of the Asiatic squadron;

in 1869-'77 was on duty at the Boston and Brooklyn Navy Yards; in 1877 was general inspector of provisions and clothing for the navy; and from November, 1877, till his retirement, he was paymaster-general.

Davis, Nelson Henry, army officer, born in Oxford, Worcester County, Mass., Sept. 20, 1821; died on Governor's Island, New York Harbor, May 15, 1890. He was graduated at the United States Military Academy in 1846, and assigned to the Third Infantry as brevet second lieutenant; was promoted second lieutenant and transferred to the Second Infantry, Feb. 16, 1847; first lieutenant, June 8, 1849; captain, March 3, 1855; major and assistant inspector-general, Nov. 12, 1861; lieutenant-colonel, June 13, 1867; colonel, June 25, 1872, to rank from March 23, 1864, and with pay and allowances from Jan. 6, 1873, the date of his confirmation by the United States Senate; brigadier-general and inspector-general, March 11, 1885; and was retired on Sept. 20 following. In the volunteer service he was colonel of the Seventh Massachusetts Infantry from Sept. 4 till Nov. 19, 1861. In the regular army he was brevetted first lieutenant, Aug. 20, 1847, for gallant conduct at Contreras and Churubusco; lieutenant-colonel, July 3, 1863, for Gettysburg; colonel, May 29, 1864, for the Apache Indian war in Arizona; and brigadier-general, March 18, 1865, for services during the war. After the war he was inspector-general of the military district of New Mexico in 1868; the department of Missouri in 1868-'72; on inspection duty in 1872-'76; and in the latter year he was appointed inspector-general of the military division of the Atlantic.

Davis, Reuben, lawyer, born in Tennessee, Jan. 18, 1813; died in Huntsville, Tenn., Oct. 14, 1890. He was a second cousin of Jefferson Davis. He received a limited education, studied and practiced medicine, and subsequently adopted the legal profession. In 1835 he was elected district-attorney for the Sixth Judicial District of Mississippi; in 1837 was re-elected; in 1842 was a judge of the High Court of Errors and Appeals; and in the early part of the Mexican War was colonel-commandant of the Mississippi Rifles. He was a member of the Lower House of the Mississippi Legislature in 1855-'57, and a Representative in Congress in 1857-'61, serving on the committees on post-offices and post roads, and on expenditures in the Navy Department. In 1880 he published "Recollections of Mississippi and Mississippians," dedicated to the lawyers of the State, by "the sole survivor of the bar of fifty years ago."

Davison, Henry J., engineer, born in New York city, Dec. 22, 1835; died in Liverpool, England, July 22, 1890. He received a private-school education, and when eighteen years old became an apprentice in the Chelsea Iron Works, New York city, at which light-draught steamers and gas plants were being made. After the failure of the company and the transfer of its plant to the Novelty Iron Works he was engaged by the latter as foreman. While he was in New Orleans building two mammoth baking ovens the Crystal Palace in New York was burned, and on his return, learning that many engineers had declined to undertake the removal of the frame-work of the great dome, he volunteered to take it down, and accomplished the task without accident. After this he established himself as a mechanical engineer, and for several years was occupied in designing and putting together, after their manufacture elsewhere, light-draught steamers for South American rivers, and in building the telegraph lines in the United States of Colombia. Returning to New York city, he applied himself exclusively to gas enterprises and the construction of gas plants. He introduced the new system of water gas; constructed large gas plants in New York city, Albany, Syracuse, Baltimore, Brooklyn, Chicago, and elsewhere; and with others brought the entire gas plant of Indianapolis, Ind., early in 1890.

Day, Henry Noble, educator, born in Washington, Conn., Aug. 4, 1808; died in New Haven, Conn., Jan. 12, 1890. He was a nephew of President Jeremiah Day, of Yale University, author of "Day's Al-

gebra"; was graduated at Yale in 1828; and, after teaching in Burlington, N. J., nearly two years, and beginning the study of law in Philadelphia, was appointed tutor in Yale in 1831. During the three years he held this office he took a full course in divinity, and, after spending more than a year in European travel, was ordained pastor of the First Congregational Church in Waterbury, Conn., Nov. 9, 1836. In October, 1840, he resigned this charge to become Professor of Sacred Rhetoric in Western Reserve College, where he remained until 1858. He then accepted the presidency of Ohio Female College, near Cincinnati, which he held until 1864, when he removed to New Haven to engage in literary work. He received the degree of D. D. from Farmer's College, Cincinnati, and LL. D. from the Iowa State University in 1877. His publications, which are numerous, include "The Art of Eloquence" (1844), "The Art of Rhetoric" (1850), and "The Science of Education" (1859).

Degener, Edward, merchant, born in Brunswick, Germany, Oct. 29, 1809; died in San Antonio, Texas, Sept. 11, 1890. He received an academic education in Germany and in England, was twice a member of the legislative body in Anhalt-Dessau, and a member of the first German Parliament in Frankfurt; settled in Sisterdale, Texas, and engaged in farming in 1850; was court-martialed and imprisoned by the Confederates because of his loyalty to the Union; and after the war removed to San Antonio and became a merchant. He was a member of the Texas Constitutional Convention in 1866, and offered the first resolution in favor of universal suffrage, and was also a member of the second Constitutional Convention in 1868. In 1868 he was elected to Congress from the Fourth Texas District as a Republican, and served as a member of the Committee on Indian Affairs.

Devan, Thomas, missionary, born in New York city, July 31, 1809; died in New Brunswick, N. J., Jan. 16, 1890. He was graduated at Columbia College in 1828 and at the College of Physicians and Surgeons in 1831, and, after practicing medicine in New York city for ten years, prepared himself to be a medical missionary, and was sent to China in 1843. On the failure of his health in that country, he went to France and opened Protestant missions in Paris, Lyons, and St. Etienne. He returned to the United States shortly before the civil war, was an army chaplain during that period at David's Island and Fort Schuyler, N. Y., and subsequently held several pastorates. He was an able linguist, translated French and Chinese works, and published treatises.

Dexter, Henry Martyn, clergyman, born in Plympton, Mass., Aug. 13, 1821; died in New Bedford, Mass., Nov. 13, 1890. He was graduated at Yale College in 1840, and at Andover Theological Seminary in 1844; became pastor of the Congregational church in Manchester, N. H., in 1844; removed to Boston in 1849, and was pastor of the Berkeley Street Congregational Church till 1867, and editor of the "Congregationalist" from 1851 till 1866; and resigned his pastorate in 1867 to become editor of the consolidated "Recorder" and "Congregationalist," with which he remained until his death. In 1877-'80 he was lecturer on Congregationalism at Andover Theological Seminary. Since 1869 he had been a member of the American Antiquarian and the Massachusetts Historical Societies, and since 1884 a member of the American Historical Association. He received the degree of D. D. from Iowa College in 1865. Besides his editorial work and contributions to numerous periodicals and cyclopedias, his published works include: "The Voice of the Bible, the Verdict of Reason" (Boston, 1858); "Congregationalism: What it is, Whence it is, How it works, Why it is better than any other Form of Church Government, and its Consequent Demands" (1865, fifth edition, 1879); "A Glance at the Ecclesiastical Councils of New England" (1867); "The Church Polity of the Pilgrims, the Polity of the New Testament" (1870); "As to Roger Williams and his 'Banishment' from the Massachusetts Colony" (1876); "The Congregationalism of the Last

Three Hundred Years as seen in its Literature" (New York, 1880); "A Handbook of Congregationalism" (Boston, 1880); and "Common Sense as to Woman Suffrage" (1885). At the time of his death he had in preparation "A Bibliography of the Church Struggle in England during the Sixteenth Century" and a "History of Old Plymouth Colony." He bequeathed to Yale College his collection of 2,000 volumes on the New England Puritans.

Dick, Robert, inventor, born in Bathgate, Scotland, Jan. 12, 1814; died in Buffalo, N. Y., Dec. 10, 1890. The family removed to Canada in 1821, and soon afterward both father and mother died, leaving eleven children. Under the direction of the oldest, a daughter, the brothers and sisters settled in Lanark County, Ontario, where Robert received his preparatory education. In 1841 he was graduated at Hamilton College, and then spent several years in teaching and missionary labor. In 1854 he established the "Gospel Tribune" in Toronto, and two years afterward invented a newspaper mailing machine, which is now in general use in large newspaper offices. By successive improvements he perfected his invention, so that with a single machine one operator can paste and attach to newspapers or wrappers 20,000 labels bearing the subscribers' addresses in a day of ten hours.

Dodge, Ebenezer, educator, born in Salem, Mass., April 22, 1819; died in Hamilton, N. Y., Jan. 5, 1890. He was graduated at Brown University in 1840, and at the Newton Theological Institute, Mass., in 1845; was called to a Baptist church in New London, N. H., in 1846; and was chosen Professor of Biblical Criticism and Interpretation in Hamilton Theological Seminary, N. Y., in 1853. He held this chair till 1861, when he was transferred to that of Christian Theology in the same institution, and was Professor of Evidence of Christianity in Madison (now Colgate) University, in the same town, from 1853 till 1861. In 1868 he was elected President of Madison University, and in 1871 became president also of the Theological Seminary. He held both offices until his death, and greatly strengthened the institutions. The endowment of the university was largely increased under his administration; the faculty was extended to nearly forty professors and instructors; Colgate Academy, with a faculty and buildings of its own, was established; a completely equipped chemical laboratory was added; Eaton Hall, a theological seminary building, was erected and furnished; the new Colgate Library building, to cost \$175,000, was projected and nearly completed; a new building, for the Young Men's Christian Association and a gymnasium, was planned; and the name of the university was changed to Colgate, in recognition of repeated acts of munificence by James B. and Samuel Colgate. President Dodge published "Evidence of Christianity" (Boston, 1869) and "Christian Theology" (Hamilton, last edition, 1854). He received the degree of D. D. from Brown University in 1861, and LL. D. from the University of Chicago in 1869.

Donnelly, Arthur J., clergyman, born in Athy, County Kildare, Ireland, Jan. 18, 1820; died in New York city, March 25, 1890. When seven years old he accompanied his parents to New York city, where he received his early education, was apprenticed to the dry-goods business, and, after working for Lord & Taylor for eight years, went into business in partnership with David J. Campion. Although meeting with exceptional success in mercantile life, he decided in 1846 to retire from it and prepare himself for the ministry of the Roman Catholic Church. He pursued his ecclesiastical studies at St. Joseph's School (now St. John's College), Fordham, N. Y.; was ordained a priest Oct. 6, 1852; organized the parishes of Manhattanville, Fordham, and St. Michael's; was assigned to the latter in 1857; and while in charge of it built the present church and the Convent of the Presentation Nuns, and founded the Roman Catholic Orphan Asylum on Staten Island. On the death of Vicar-General Quinn, he was appointed to succeed him, May 28, 1887, and on the suspension of the Rev. Dr. McGlynn he

was appointed administrator of St. Stephen's parish, though retaining the pastorate of St. Michael's. He was an irremovable pastor, and a member of the archbishop's council since 1873.

Donovan, Caroline Souleby, philanthropist, born in Baltimore, Md., Dec. 20, 1803; died in Catonsville, Md., March 5, 1890. She belonged to an old Maryland family, and was the widow of Joseph Donovan, who became wealthy in mercantile business and died in 1861. She bequeathed \$100,000 to Johns Hopkins University, Baltimore, for the purpose of endowing a chair of English Literature; a block of warehouses valued at \$80,090 to trustees with instructions for them to use the income in promoting the Colonization Society of Liberia; \$10,000 to Washington and Lee University, Lexington, Va.; and a handsome sum to the Little Sisters of the Poor in Baltimore.

Drake, Thomas, manufacturer, born in Leeds, England, April 9, 1807; died in Philadelphia, Pa., April 18, 1890. His father, John Drake, was a manufacturer of woolen goods, who, meeting with financial losses in 1828, came to the United States with his family. Thomas, in 1837, rented a small building near Falls Village, Conn., and began business for himself, making, it is said, the first lot of goods known as Kentucky woolen jeans. His business increased rapidly; he enlarged his works, took his brother and two friends into partnership, and operated under the firm name of T. Drake & Co. till the dissolution of the partnership in 1840. In 1841 he moved to Philadelphia, where he erected a brick mill which contained 70 woolen looms and 6 sets of woolen cards. In 1845 he erected a second mill, fitted with 224 looms and 10,000 spindles, in which he carried on the manufacture of print cloths till 1861, when he retired from business. He was elected a director of the First National Bank in 1864, and of the Fidelity Trust Company in 1874, and held both offices till his death. He left an estate estimated to be worth \$4,500,000. He bequeathed \$100,000 to various local charities, and conditionally provided for the endowment of a grand educational institution. The clause relating to the latter project provided, that should his daughter die without executing a specified power of disposition and without leaving any lineal descendant to whom the estate would descend by process of law, his trustees should procure a charter for a school to be known as the Thomas and Matilda Drake College, which should be managed and conducted on the same principles as Girard College, with the exception that it should be for girls instead of boys. The net income of his estate should be applied to the erection of the necessary buildings on his residence lot in Germantown, and to the maintenance of the college and its pupils forever.

Dressel, Otto, composer, born in Geisenham, Germany, Dec. 20, 1826; died in Beverly Cove, Mass., July 26, 1890. He studied music with Liszt and Hauptmann; came to the United States in 1848, and settled in Boston, Mass., in 1852. For many years he was associated with Robert Franz in editorial and musical work, and with him prepared the edition of Handel's "Messiah" to which Mozart's "Additional Accompaniments" were added. He founded the Bach Club in Boston, and directed its weekly practice in the choral works of Bach and Handel; and was a member of the Harvard Musical Association and of the St. Botolph Club.

Drammond, Thomas, lawyer, born in Bristol Mills, Me., Oct. 16, 1809; died in Wheaton, Ill., May 15, 1890. He spent several years at sea while a youth, was graduated at Bowdoin College in 1830, studied law in Philadelphia, and was admitted to the bar in 1833. Two years afterward he removed to Galena, Ill., where he practiced till 1850, and was then appointed judge of the United States district court. On the creation of the United States circuit court, in 1869, he was appointed judge for the district including Illinois, Indiana, and Wisconsin; and he held this office till 1884, when he resigned on account of having reached the constitutional age. What is considered his most important judicial work was done after his

advancement to the circuit court, and involved the legal management of nearly 16,000 miles of railroads in his circuit, which had been wrecked in the panic of 1873. By the summer of 1876 this mileage had passed into the hands of receivers appointed by him. These interests represented more than \$300,000,000 in bonds, and nearly twice as much in stocks. Each receiver reported to him in detail, and he had to pass judgment on their combined acts, many of which involved unusual questions of equity. In seven years all the receiverships were terminated, and he had saved every road. The opinion was expressed that he did more to shape the policy of courts in managing railroads in the hands of receivers, and in determining the rights of creditors, than any other judge in the country.

Dunton, Walter Chipman, lawyer, born in Bristol, Vt., Nov. 29, 1830; died in Rutland, Vt., April 23, 1890. He was graduated at Middlebury College, Vermont, in 1857; was admitted to the bar in Rutland in 1858, was a member of the Legislature of Kansas Territory in 1861; and was judge of the probate court of the district of Rutland, Vt., from 1865 till 1877. In the latter year he was appointed a judge of the Supreme Court of Vermont, to fill a vacancy, and in 1878 was elected to the office for two years, but failing health compelled him to resign in 1879. Judge Dunton was elected a State Senator in 1880, and served as chairman of the Judiciary Committee, and as a member of the Committee on Constitutional Amendments. In 1881 he was President of the Vermont Bar Association, and in 1888 he removed to Iowa City, Iowa, to fill for one year a chair in the Law School of the State University. He was also a member of the State Constitutional Convention in 1870, and excepting one year, a director of the Baxter National Bank in Rutland from 1872 till his death.

Duryee, Abram, military officer, born in New York city, April 29, 1815; died there, Sept. 27, 1890. He was of French Huguenot ancestry, and inherited his military spirit, his grandfather having been a soldier in the Revolutionary War, and his father and two uncles officers in the War of 1812. He was educated in the public schools of New York city and in the grammar school of Columbia College, and for many years was engaged in importing mahogany. His military career began in 1833, when he joined the One Hundred and Forty-second Regiment of State militia. In 1838 he changed to the Twenty-seventh, now the Seventh Regiment, and he rose from the ranks till he was elected colonel Jan. 29, 1848. He resigned the office July 4, 1859. During this tenure he commanded the regiment in the Astor Place, City Hall, police, Sixth Ward, and "dead rabbit" riots, and was twice wounded in the first. After he resigned the merchants of New York city presented him with a service of solid silver that cost \$5,000. In April, 1861, he raised the Fifth Regiment of New York volunteers in less than a week, drilled it a month, was ordered with it to Fort Monroe, and there as acting brigadier-general had command of six regiments till ordered to the front for the advance on Little and Big Bethel, where the Duryee Zouaves were first engaged. He was promoted brigadier-general Aug. 31, 1861, and was given a brigade in Ricketts's division of McDowell's corps, with which he took part in the battles of Cedar Mountain, Rappahannock Station, Thoroughfare Gap, Groveton, Chantilly, South Mountain, and Antietam. At the second Bull Run he was twice wounded, but held his position to the end; and when Gen. Ricketts succeeded Gen. Hooker as corps commander, he was placed in command of the division. He resigned from the army in January, 1863, because of dissatisfaction with the treatment his brigade had received. At the close of the war he was brevetted major-general of volunteers for his distinguished services. After his return he was elected colonel of the Seventy-first Regiment and brigadier-general of the Fourth Brigade, N. G. S. N. Y., but declined both offices. In 1873 he was appointed a police commissioner of New York city, and rendered important service in breaking up a gathering of Communists in

Tompkins Square in January, 1874. In 1884 he was appointed dock master. He was given a pension of \$30 a month by the Federal Government, and in February, 1890, this was increased to \$100 a month by special act of Congress.

Eaton, Lucien, lawyer, born in Denmark, Lewis County, N. Y., Sept. 24, 1831; died in Boerne, Texas, March 7, 1890. He was graduated at the Harvard Law School and admitted to the bar of Massachusetts in 1857, and removed to St. Louis and was admitted to the bar of Missouri in 1858. In May, 1861, he enlisted in the Third Regiment of the United States Reserve Corps in St. Louis; on July 2, 1863, he was commissioned captain in the Twenty-third Missouri Infantry; the same day he was detached from his command and detailed to duty as judge-advocate of the St. Louis district; on July 2, 1864, he was commissioned major and judge-advocate for the Department of Missouri; and on Aug. 17, 1865, was mustered out of the service. He was appointed register in bankruptcy for the First Congressional District (Eastern Federal District) of Missouri, May 27, 1867, and held the office till the repeal of the national bankruptcy law; was police commissioner for St. Louis County from 1866 to 1869; was United States commissioner from 1868 till his death; was appointed special United States commissioner of Alabama claims on Jan. 2, 1875; and was admitted to practice in the United States Supreme Court on Feb. 28 following. He had much to do with the exposure of the whisky frauds in Missouri, and was special counsel for the Government in the trials that followed.

Elliott, William, Jr., educator, born in Baltimore, Md., in 1821; died there, July 1, 1890. He was for many years President of the Baltimore City College, and received the degree of A. M. from Dickinson College in 1857, and that of Ph. D. from the College of New Jersey in 1877.

English, James Edward, statesman, born in New Haven, Conn., March 13, 1812; died there, March 2, 1890. He received a common-school education; was apprenticed to the carpenter's trade; became a master builder before attaining his majority; subsequently engaged in lumbering and real-estate enterprises; and was afterward interested in banking and manufacturing corporations; a manager of Adams Express Company, and President of the New Haven Savings Bank. He entered political life in 1848, when he was elected a member of the Common Council of New Haven. In 1855 he was elected to the State Assembly, and in 1856 a State Senator. In 1860 he was defeated as candidate for Lieutenant-Governor of Connecticut. At the beginning of the civil war he withdrew from the regular Democratic organization in his State and became an active war Democrat. He co-operated with the national and State authorities in raising troops for the war, and by giving liberally of his means hastened the equipment and dispatch to the field of the first Connecticut regiments. In 1861 he was elected to Congress from the 2d Connecticut District, and in 1863 he was re-elected. While in Congress he voted with the Republicans for the abolition of slavery. He was a delegate to the National Union Convention in Philadelphia in 1866, and the same year was defeated by Gen. James R. Hawley, for Governor, by 531 votes. In 1867 he defeated Gen. Hawley by 957 votes; in 1868 defeated Marshall Jewell by 1,765 votes; in 1869 was defeated by Mr. Jewell by 411 votes; in 1870 again defeated Mr. Jewell by 843 votes; and in 1871 was again defeated by Mr. Jewell by 100 votes. He then spent two years in travel. In 1873 he greatly aided the election of Charles R. Ingersoll to the governorship; in November, 1875, he was appointed United States Senator, to fill the unexpired term of Orris S. Ferry; and in 1876 he was defeated by William H. Barnum in the Legislature for a full senatorial term. He was a Democratic presidential elector in 1876 and 1884, and an earnest advocate of tariff reform. He left an estate estimated at not quite \$2,000,000, and bequeathed \$20,000 to the Connecticut State Hospital Society for free beds;

\$20,000 to the Sheffield Scientific School to found a chair of Mathematics; \$10,000 to the Yale University libraries; \$5,000 to the New Haven orphan asylums; and \$5,000 to the St. Francis Orphan Asylum.

Evarts, William Wallace, clergyman, born in Granville, Washington County, N. Y., March 13, 1814; died in Chicago, Ill., Sept. 25, 1890. He removed with his father's family to Michigan in 1826; was graduated at Madison University in 1837, and was ordained pastor of the Baptist church in Earlsville, Madison County, N. Y., in 1839. In 1841 he became pastor of the Tabernacle Baptist Church in New York city, and there brought about a series of revivals, which gave him wide repute. In 1853 he accepted a call from the Walnut Street Baptist Church in Louisville, Ky., where he labored with great success till shortly before the civil war, when he resigned on account of the opposition of the pro-slavery people. He then went to Chicago, and for more than twenty years was engaged in pastoral duty there, besides taking an influential part in establishing the Chicago University and the Chicago Baptist Theological Seminary. From 1879 till 1885 he officiated in Jersey City, N. J., retiring to Chicago in the latter year after an active pastorate of nearly fifty years. His publications include "The Pastor's Hand-Book" (New York, 1856), "The Bible Prayer-Book," "The Scriptural School Reader," "Life and Thoughts of John Foster," "The Voyage of Life," "The Promise and Training of Childhood," "Words in Earnest," and "Tracts for the Churches."

Faulkner, Lester Bradner, lawyer, born in Danville, N. Y., April 4, 1837; died there, Jan. 27, 1890. He was graduated at Yale College in 1859, volunteered as a private soldier at the beginning of the civil war, was commissioned lieutenant-colonel of the 136th, New York Volunteers in September, 1862, distinguished himself in several engagements, took part in the Chattanooga campaign, was brevetted brigadier-general for gallantry in a charge at Atlanta, and, after participating in Sherman's march to the sea, was mustered out of the service in January, 1865. After the war he studied law, was admitted to the bar, and practiced in partnership with Charles J. Bissell; but the management of his father's large farming interests occupied most of his attention till 1870. About this time he became active in State politics. In 1882 he was chairman of the convention that nominated Grover Cleveland for Governor, and in 1884 was a delegate-at-large to the Democratic National Convention. He became a director in the Danville National Bank, of which his father was president, in 1867, claimed to have sold all his certificates in 1886, was charged with complicity in the wrecking of the bank in 1887, and was tried and convicted in October, 1888. He was granted a new trial, in which the jury disagreed, in May, 1889; was tried a third time, convicted, and sentenced to seven years' imprisonment in October following, and died pending decision on a writ of error.

Fayerweather, Daniel B., merchant, born in Stepany, Conn., in 1821; died in New York city, Nov. 15, 1890. He served an apprenticeship with a farmer, and at its termination learned the shoemaker's trade in Bridgeport. He worked at his trade till prostrated with shoemaker's colic, when he bought a tin-peddler's outfit and began tramping Virginia. Where he could not sell for cash he took hides in payment. On the restoration of his health he resumed his trade in Bridgeport. He remained there till 1854, when he removed to New York city and entered the employ of Hoyt Brothers, leather dealers. In 1870 the firm was dissolved, and Mr. Fayerweather, H. S. Ladew, and J. B. Hoyt established the firm of J. B. Hoyt & Co. On the withdrawal of Mr. Hoyt, the remaining partners continued the business under the firm name of Fayerweather & Ladew, which has since remained unchanged. Mr. Fayerweather was noted in financial circles for strict commercial rectitude. He was retiring and economical in habits, but always ready to assist deserving charities. Outside the circles of business acquaintances and personal friends, he was but

little known, and the publication of that part of his will bequeathing more than \$2,000,000 to various charitable and educational institutions, and directing that a further sum, estimated at \$5,000,000, be placed in the hands of three executors for distribution among public institutions according to private instructions, excited wide attention. His specific bequests were: \$25,000 to the Presbyterian Hospital, \$25,000 to St. Luke's Hospital, \$25,000 to the Manhattan Eye and Ear Infirmary, \$10,000 to the Woman's Hospital, \$10,000 to Mount Sinai Hospital, all in New York city, total, \$95,000; \$200,000 to Yale College and \$100,000 to its Scientific School, \$200,000 to Columbia College, \$200,000 to Cornell University, \$100,000 to Bowdoin College, \$100,000 to Amherst College, \$100,000 to Williams College, \$100,000 to Dartmouth College, \$100,000 to Wesleyan University, \$100,000 to Rochester University, \$100,000 to Hamilton College, \$100,000 to the University of Virginia, \$100,000 to Lincoln University, \$100,000 to Hampton University, \$100,000 to Maryville College, and \$50,000 each to the Union Theological Seminary and Lafayette, Marietta, Adelbert, Wabash, and Park Colleges; total, \$2,100,000; total of specific public bequests, \$2,195,000. In January, 1891, Mrs. Fayerweather began proceedings in opposition to the probating of the will, on the ground that, while she did not object to the public bequests, she was unwilling that the executors should receive \$3,000,000. On March 9 the suit was withdrawn, on an agreement by the residuary legatees to divide the residuary estate between Yale, Columbia, Harvard, Princeton, and the Women's and Presbyterian Hospitals in New York.

Fisher, Elizabeth Jefferson, actress, born in Philadelphia, Pa., in 1810; died in New York city, Nov. 18, 1890. She was a daughter of Joseph Jefferson, son of Thomas Jefferson, an English actor contemporary with David Garrick, and made her first appearance in Philadelphia, as Rosina in the "Spanish Barber," in 1827. In 1834 she first appeared in New York city as Ophelia, and later she supported Sheridan Knowles, and was the first actress in the United States to assume the parts of Julia in "The Hunchback" and Constance in "The Love Chase." She became a favorite support of Forrest, who pronounced her the best Lady Macbeth he ever saw, and was the original Pauline Deschappelles in America. She succeeded her brother, father of the present Joseph Jefferson, as manager in Mobile, Ala., in 1842. She first married Samuel Chapman, in 1835 Augustus Richardson, and in 1849 Charles J. B. Fisher. She was popular as Marianne in "The Wife," Gertrude in "Loan of a Lover," Eliza in "The Dumb Belle," and Gabrielle in "Tom Noddy's Secret."

Fisk, Horatio Gates, merchant, born in Huntingdon, Pa., April 21, 1838; died in Punxsatawney, Jefferson County, Pa., May 8, 1890. He was graduated at Lafayette College, Easton, Pa., in 1855; was a member of the Common Council of Huntingdon in 1862-'65; county auditor in 1865-'68, burgess in 1874-'77; and was elected a State Senator in 1876. In 1878 he was elected to Congress from the 18th Pennsylvania District, being the first Republican Congressman ever elected in that district, and was re-elected in 1880. He served as chairman of the standing Committee on Coinage, Weights, and Measures, and as a member of the select committee on the law respecting the election of President and Vice-President. He had been engaged for many years in mining, shipping, and wholesaling coal, and was identified with other large industrial enterprises in his State.

Fisk, Clinton Bowen, financier, born in Griggsville, Livingston County, N. Y., Dec. 8, 1828; died in New York city, July 9, 1890. The family removed to Lenawee County, Mich., while he was an infant, and when nine years old he was apprenticed to a farmer. On the remarriage of his mother when he was thirteen years old he was enabled to attend Albion Seminary; but while he was preparing to enter Michigan University his eyesight failed him and he abandoned a collegiate education for business. He

became clerk for a merchant and banker at Coldwater, Mich., and in 1850, after marrying his employer's daughter, was taken into partnership. In 1858 he removed to St. Louis, Mo., where he was appointed Western financial manager for the Aetna Insurance Company, and where he was an organizer of the Union Merchants' Exchange. At the beginning of the civil war he served for three months as a private in the Missouri Home Guards. In July, 1862, at the request of President Lincoln, he raised the 35d Missouri Regiment, of which he was commissioned colonel, and went to the front. In September he was ordered to St. Louis to organize a brigade, of which he was appointed brigadier-general Nov. 24, and, returning to the field, he served in the Army of the Tennessee till June, 1863, when he was given command of the military district of Southeastern Missouri. In March, 1864, he was assigned to the command of the Department of Northern Missouri, and successfully defended the State capital against attacks by the Confederates under Generals Price, Maumaduke, and Shelby. For this he was voted the thanks of the Missouri House of Representatives and commissioned major-general of State militia. He was brevetted major-general of United States Volunteers May 13, 1865, and tendered his resignation; but, instead of being relieved from duty, he was appointed Assistant Commissioner of the Freedmen's Bureau for Kentucky and Tennessee. He held this office till 1866, and in the mean time secured the founding of Fisk University, at Nashville, Tenn., for colored youth, of whose board of trustees he was president till his death. After retiring from the Freedmen's Bureau he engaged in railroad and insurance business, became a trustee of Drew Theological Seminary and of other institutions of the Methodist Episcopal Church, and was president of the Indian Commission from 1872 till his death. In 1886 he received 19,500 votes as Prohibition candidate for Governor of New Jersey, and in 1888 251,147 as candidate of that party for President of the United States.

Fisk, Photius Kavasales, clergyman, born in the Grecian Archipelago about 1807; died in Boston, Mass., Feb. 7, 1890. He was removed in infancy to Smyrna, Asia Minor, where he lost nearly all his relatives by a pestilence; spent his early years in gathering figs and working in a fig-curing establishment; was sent to a Jesuit college in Malta, where the Rev. Photius Fisk, an American missionary, found him and persuaded him to come to the United States to be educated; and, after studying at Amherst College, returned to Greece as an agent of the Board of Foreign Missions on the ship that conveyed a cargo of provisions for the starving Greeks. He landed at Malta in 1827, shortly before the memorable battle of Navarino, and, seeing no way of aiding his countrymen in their struggle for independence, returned to the United States. In 1828 he was admitted to membership in the Congregational Church and began preparing for the ministry. He was graduated at Auburn (N. Y.) Theological Seminary, ordained in Halifax, Vt., and preached in various parts of New England till 1840. He then went to Washington, D. C., had his name changed by act of Congress from Kavasales to that of his first benefactor, Photius Fisk, and was appointed a chaplain in the navy by President Harrison on the recommendation of John Quincy Adams. He was first assigned to the United States frigate "Columbia," in which he sailed from New York city on a three years' cruise on July 22, 1842. On his return he made a long report on the treatment of marines and sailors in the navy, thus beginning the agitation—which he promoted in all practical ways—that resulted in the prohibition of flogging on men-of-war in 1850. After this he made a three years' cruise on the United States frigate "Raritan," during which he collected a large amount of botanical curiosities and treasures, afterward presented to the Government conservatory. In 1858 he was ordered to the Boston Navy Yard, and while stationed there associated intimately with the leaders in the anti-slavery

movement and became a pronounced free-thinker. In 1859 he was introduced to John Brown, whom he subsequently aided with advice and funds in his effort to free the colored race. At the outbreak of the civil war his religious views led him to contemplate resigning; but he was induced to withhold his application, and, after a long leave of absence, he was retired with the rank of captain in 1868. He accumulated a large fortune, gave more than \$50,000 in charity, and bequeathed his estate to the poor of Boston.

Fitts, James Franklin, author, born in Lockport, N. Y., in 1840; died there, Jan. 11, 1890. He was admitted to the bar in 1861, and soon afterward entered the army as a private. On several occasions he distinguished himself and was rewarded with promotions, and for his services in the 114th New York Infantry, with Gen. Banks in Louisiana and with Gen. Sheridan in the Shenandoah Valley, was commissioned major. He began his literary career while a boy, continued it through the war, and followed it almost exclusively afterward. Besides corresponding with several newspapers, he had written for the various literary syndicates, and contributed poems, sketches, and stories to "Ballou's Magazine," "Harper's Magazine," "Lippincott's Magazine," "Belford's Magazine," "The Galaxy," "Hearth and Home," "Youth's Companion," "New York Weekly," and "Packard's Monthly." His best known novels are "The Parted Veil," "A Version," "A Modern Miracle," and "Captain Kidd's Gold." He was also a popular Democratic campaign orator.

Forepaugh (properly **Forebaugh**), **Adam**, showman, born in Philadelphia, Pa., Feb. 28, 1831; died there, Jan. 22, 1890. He began life as a butcher boy in his native city, ran away from home when sixteen years old, and worked in a butcher's shop in Cincinnati two years, then returned to Philadelphia, and, after working a while at his trade, established a stage line, which he conducted till 1854. He then became a horse dealer, and in the first years of the civil war made considerable money furnishing horses to street railroad companies, which were becoming crippled by the demand for horses for military purposes. In 1861 he supplied 62 picked horses to John O'Brien for his wagon circus. During the next four years O'Brien became heavily indebted to Mr. Forepaugh, and in April, 1865, the latter bought the circus, added to it Jerry Mabie's menagerie of 2 elephants and 8 other animals, engaged Dan Rice for clown, and began his career as a showman in opposition to Phineas T. Barnum. When he set out he had 110 horses, 14 cages of animals, and 1 ticket wagon; in 1877, when his circus last traveled by wagon, it had nearly 300 employes, and after that he traveled entirely by rail, using 3 trains of cars, and having 75 cages, 300 horses, and more than 400 employes. His career as a showman was one of almost uninterrupted success, and he died possessed of a large amount of real estate in Philadelphia and Brooklyn.

Fox, Daniel Miller, lawyer, born in Philadelphia, Pa., June 16, 1809; died in Atlantic City, N. J., March 20, 1890. He received a common-school education, learned the business of conveyancing, became the real-estate agent of the Pennsylvania Railroad Company, and was admitted to the bar in November, 1878. Through having large real-estate interests in his charge and many estates committed to him for settlement, he was conspicuous in public life from the day of his majority. From 1830 till 1854 he was a member of the board of school directors of the Northern Liberties, and for several years was president of the board; for nine years he was a member of the Board of Health; from 1858 till 1861 he was a select councilman; in 1861 and 1865 he was defeated as Democratic candidate for mayor; in 1868 he was elected mayor, and in a contest in the courts was the only Democratic candidate declared entitled to office. In 1875 he was appointed by President Grant a member of an expert committee to examine the subject of mail transportation. In 1881 he was active in the municipal reform movement; and in 1885 was ap-

pointed by President Cleveland Superintendent of the United States Mint in Philadelphia.

Fransoli, Joseph, clergyman, born in Seino, Switzerland, Nov. 30, 1817; died in Brooklyn, N. Y., Oct. 18, 1890. He was educated at the Seminary of Mouza, in Milan, and in the College of the Pollegio, Italy; was ordained a priest of the Roman Catholic Church in 1840; was pastor of the Church of St. Maurice twelve years, and principal of the Normal School in Milan two years; and settled in Brooklyn, N. Y., in 1856. For three years he labored in the parish of St. Charles Borromeo, and was then given charge of the new parish of St. Peter, with which he remained until his death. Besides organizing the parish he built St. Peter's Church, the old and the new St. Peter's Hospital, St. Peter's Academy, and St. Peter's Free Kindergarten School; organized the League of the Cross for temperance work; and was active in promoting many denominational and public charities. His golden jubilee, celebrated June 7, 1890, in his church, was continued a week, and included a public reception in the Academy of Music.

French, John R., journalist, born in Gilmanton, N. H., May 28, 1819; died in Boise City, Idaho, Oct. 2, 1890. He learned the printer's trade in the office of the "New Hampshire Statesman," in Concord; was publisher and associate editor of the "Herald of Freedom" there, one of the first of the New England anti-slavery newspapers, for five years; was editor of the "Eastern Journal" in Biddeford, Me., for two years; and, removing to Ohio in 1854, was editor of the "Telegraph," the "Press," and the Cleveland "Morning Leader" for six years. In 1858-'59 he was a member of the Ohio Legislature. In 1861 he was appointed to a clerkship in the Treasury Department in Washington; in 1864 was appointed by President Lincoln a member of the Board of Direct Tax Commissioners for North Carolina, whither he at once removed; in 1867 was a delegate to the State Constitutional Convention; and in 1868 was elected to Congress from the North Carolina district as a Republican. At the close of his term he was chosen sergeant-at-arms of the United States Senate, and he held the office for nine years. In July, 1880, he was appointed secretary and disbursing officer of the Ute Commission. He had lived in Idaho since his last appointment, and at the time of his death was editor of the "Boise City Sun."

Frothingham, Isaac H., financier, born in Salem, Mass., in 1807; died in Brooklyn, N. Y., Oct. 20, 1890. He was engaged in business in Boston till about 1840, and then removed his residence to Brooklyn, and entered mercantile life in New York city. He was one of the organizers of the Nassau Bank in Brooklyn, and its president till 1865; was President of the Union Trust Company of New York city from 1865 till 1878; and was treasurer of the Home Life Insurance Company, treasurer of the Brooklyn Academy of Music, director of the Home Fire Insurance Company, and one of the largest stockholders in the Shoe and Leather and the St. Nicholas National Banks in New York city. During his residence in Brooklyn Mr. Frothingham took an active interest in its public institutions. He was a founder and for many years President of the Brooklyn Hospital; a founder of the Polytechnic Institute and president of its board of directors for thirty-five years; and a member of the New England Society, the Art Association, and the Brooklyn Library.

Gallatin, Albert Rolaz, lawyer, born in New York city, in 1799; died there, Feb. 25, 1890. He was a son of Albert Gallatin, the financier and Secretary of the United States Treasury under President Madison; was educated at Princeton; and was admitted to the bar in Pennsylvania. In 1815 he accompanied his father on his mission as United States minister to France, and in 1826 went with him when he was appointed envoy to Great Britain. He practiced law several years in Baltimore, and then returned to New York city and became a member of the Board of Brokers. For a long time he had charge of important financial transactions for John Jacob Astor the first.

Gay, Edward J., manufacturer, born in Liberty, Bedford County, Va., Feb. 8, 1816; died in Plaquemine, La., April 25, 1890. In 1820 he accompanied his father's family to Illinois, and four years later to St. Louis, Mo. He was a student in Augusta College, Kentucky, in 1833-'34. From 1838 till 1860 he was engaged in commercial business in St. Louis, though he had established his home in Plaquemine, La., in 1855. He was closely identified with the erection of the first and the present Merchants' Exchange building in St. Louis, and was President of the Louisiana Sugar Exchange in New Orleans from its organization, in 1833. In recent years, besides his commercial business, he was largely engaged in agriculture and manufacturing. He was elected to Congress from the 3rd Louisiana District as a Democrat in 1884, and was re-elected in 1886, this being the only political office he ever held. In Congress he served on the Committee on Appropriations.

Glisson, Oliver S., naval officer, born in Ohio, in 1809; died in Philadelphia, Pa., Nov. 20, 1890. He was appointed a midshipman in the United States navy, Nov. 1, 1826; was promoted past midshipman, April 18, 1832; lieutenant, March 8, 1837; commander, Sept. 14, 1855; captain, July 16, 1862; commodore, July 25, 1866; and rear-admiral, June 10, 1871; and was retired Jan. 18, 1871. During his naval career he was on sea duty twenty-two years and three months, on shore or other duty fifteen years and nine months, and was unemployed twenty-six years and one month. He made his first cruise, to the West Indies, in 1827-'28; to the Mediterranean in 1836; commanded the schooner "Reefers" in the Mexican War; accompanied Perry's expedition to Japan in 1852-'55; and commanded at the Naval Asylum in Philadelphia in 1857. In 1862, while commanding the steamer "Mount Vernon," of the North Atlantic blockading squadron, he saved the transport "Mississippi," with Gen. Butler and 1,500 men on board, which had run aground on Frying Pan Shoals, off the North Carolina coast, while on the way to New Orleans. Later, he burned a Confederate "lightboat" directly under the guns of Fort Caswell. In 1863 he commanded the steam sloop "Mohican" in pursuit of the privateer "Alabama." In December, 1864, and January, 1865, he took part in the attacks on Fort Fisher, commanding the 3rd Division of the fleet. After the war he commanded the League Island naval station and the European squadron.

Goff, Milton B., educator, born in Allegheny City, Pa., Dec. 17, 1831; died there, Nov. 8, 1890. He was graduated at Allegheny College in 1854; was Professor of Mathematics and Natural Science in Madison College, Uniontown, Pa., in 1854-'57; principal of North Illinois University, Henry, Ill., for three years; principal of the Sharpsburg (Pa.) Academy; and principal of the Third Ward School, Allegheny, for four years. From 1867 till 1882 he was Professor of Mathematics in Western University, Allegheny; in 1882 was chosen Professor of Mathematics and Astronomy in Allegheny College; and from 1884 till his death was Chancellor of Western University. He had received the degree of LL. D., and published several works on mathematics and astronomy.

Gray, Hiram, jurist, born in Salem, Washington County, N. Y., in 1801; died in Elmira, N. Y., May 6, 1890. He was graduated at Union College in 1821, studied law, was admitted to the bar, and practiced in Elmira in 1825-'28. He was admitted to practice in the Supreme Court in 1833, and elected to Congress from the Elmira District in 1836, serving there on the Committee on Claims. In 1838, before retiring from Congress, he was appointed by Gov. Silas Wright circuit judge and Vice-Chancellor of the 6th Judicial District of New York, and his appointment was confirmed by the Senate without reference. On the abolition of these offices soon afterward he retired to private practice, from which he was called in 1847 by his election as a justice of the Supreme Court of New York. In 1851 he was re-elected for the term that expired in 1859. He received the degree of LL. D. from Union College in 1867.

Hartsell, J. Hazard, clergyman, born in Washington County, Pa., April 6, 1830; died in Waverly, N. Y., June 8, 1890. He was left an orphan at a very early age, succeeded in making a living as a farmer's boy for a few years, and afterward learned the saddler's trade in Pittsburg. Removing to Marietta, Ohio, he entered the college there, and was graduated with high honors. He entered the Universalist ministry in 1854, and soon received a call to Quincy, Ill. His next parish was in Cincinnati, and subsequently he was pastor of the Church of the Messiah in Buffalo for fourteen years. Thence he removed to Albany, N. Y. In 1881 he united with the Protestant Episcopal Church, and he was rector of Grace Church, Waverly, N. Y., at the time of his death. As an orator he achieved considerable distinction, and delivered many addresses before literary associations and at college commencements and religious conventions. In 1870 he delivered the centennial address of the Universalist denomination at Boston. His works comprise discourses, lectures, orations, and a volume of poetry "Wanderings on Parnassus" (1884).

Harper, Fletcher, publisher, born in New York city, Oct. 7, 1828; died there, May 22, 1890. He was the second and last surviving son of Fletcher Harper, the youngest of the four brothers who established the publishing house of Harper & Brothers. At the age of sixteen he made a voyage, as a sailor before the mast, to China. He was educated in the public schools and in Columbia College, traveled for a year in Europe, became connected with the publishing firm at an early age, was admitted to the firm in 1869, and in 1877 succeeded his father in the direct management of "Harper's Weekly" and the other serial publications of the house. Since 1880 he had not taken a very active part in the business. He was an adept in many sports, a man of artistic, literary, and musical talents, and a discriminating collector of books, works of art, and bric-a-brac. He was president for many years of the New York Homeopathic Asylum for the Insane at Middletown, and was an early and active member of the Union League Club.

Haven, Samuel Bush, physician, born in Sheridan, Chautauqua County, N. Y., in 1827; died in Chicago, Ill., May 5, 1890. He removed to Illinois in 1854, studied medicine and surgery, and achieved a wide reputation for his skill as a surgeon. At the outbreak of the civil war he volunteered his services and went to the field with the first troops from Illinois as brigade surgeon. He enjoyed the personal friendship of Gen. Grant; was promoted rapidly to division, corps, and general army surgeon; and served on the staffs of Generals Grant, Hancock, and Heintzelman.

Hedge, Frederick Henry, educator, born in Cambridge, Mass., Dec. 12, 1805; died there, Aug. 21, 1890. He was a son of Levi Hedge, LL. D., a well-known teacher in his day. In 1818 he accompanied George Bancroft, the historian, to Germany as a companion. After studying there five years he returned to Cambridge and was graduated at Harvard College in 1825, and at its Divinity School in 1828. He was ordained pastor of the Unitarian church in West Cambridge (now Arlington) in 1829; accepted a call to the Independent Congregational Church in Bangor, Me., in 1835, and served it till 1850; was pastor of Westminster Church in Providence, R. I., from 1850 till 1856; was called to the church in Brookline, Mass., in 1856; and retired from active pastoral labor in 1872. In 1857 he became teacher of ecclesiastical history in Harvard Divinity School, and in 1872 Professor of the German Language and Literature in Harvard University, and he held the former chair till 1877 and the latter till 1881. Dr. Hedge was President of the American Unitarian Association and editor of the "Christian Examiner" for several years. He received the degrees of D. D. and LL. D. He was author of several hymns and a number of widely read books; among the latter "Prose Writers of Germany" (Philadelphia, 1848; 3d ed., 1871); "Christian Liturgy for the Use of the Church" (Boston, 1853); "Reason in Religion" (1865; 2d ed., 1875);

"The Primeval World of Hebrew Tradition" (1870); "The Ways of the Spirit, and other Essays" (1877); "Atheism in Philosophy, and other Essays" (1884); and "Hours with German Classics" (1886).

Heilman, William, manufacturer, born in Albig, Rhein-Hessen, Germany, Oct. 11, 1824; died in Evansville, Ind., Sept. 22, 1890. He came to the United States in 1843, and, settling in Evansville, learned the machinist's trade. In 1847 he began building a large machine shop and foundry, which he completed and operated till his death. He was also president of a company owning a cotton mill in which 25,000 yards of sheeting and drills were manufactured daily. He served for six years in the city council; was elected to the State House of Representatives in 1870, and to the State Senate in 1876; was a delegate to the Republican National Convention in 1876; was elected to Congress from the 1st Indiana District as a Republican in 1878 and 1880; and was defeated for a third term in 1882. While in Congress he served on the committees on the District of Columbia, expenditures in the Treasury Department, and on the improvement of the Mississippi river.

Heiss, Michael, clergyman, born in Pfahldorf, Bavaria, April 12, 1818; died in La Crosse, Wis., March 26, 1890. He was graduated at the Gymnasium of Newburg in 1835; took a theological course in the University of Munich; entered the Roman Catholic seminary in Eichstadt; and was ordained a priest Oct. 18, 1840. In 1843 he came to the United States and was appointed pastor of a church in Covington, Ky.; and in the following year, on the consecration of Dr. John Martin Henni as first Bishop of Milwaukee, he removed to that city and became the bishop's secretary. In 1846 he founded St. Mary's Church; then spent two years in Europe; was chosen president of the Salesianum on his return; and on the division of the diocese of Milwaukee was appointed first bishop of the new diocese of La Crosse, and was consecrated Sept. 6, 1868. Under his administration the Franciscan Sisters were established in La Crosse, the Christian Brothers opened St. John's College in Prairie du Chien, and the School Sisters of Notre Dame had several flourishing schools in various parts of the State. By 1878 his diocese comprised 36 churches with resident pastors, 50 others that were visited regularly, 40 priests, and a Roman Catholic population of 45,000. On March 14, 1880, he was appointed Bishop of Adrianople and Coadjutor of Milwaukee, and on April 23, 1882, received the pallium as second Archbishop of Milwaukee.

Hiestand, John A., journalist, born in East Donegal Township, Lancaster County, Pa., Oct. 2, 1824; died in Lancaster, Pa., Dec. 13, 1890. He was brought up on a farm; received a collegiate education; studied law; and was admitted to the bar in 1849. In 1852, 1853, and 1856 he was elected to the State Legislature as a Whig; and in 1858 he relinquished the practice of law and became editor and proprietor of the Lancaster "Examiner," with which he remained till 1889, when he retired from business. From 1871 till 1879 he was naval officer at the port of Philadelphia, and in 1884 and 1886 he was elected to Congress from the 9th Pennsylvania District as a Republican. He served on the committees on War Claims, Printing, and the Government Printing Office.

Henderson, Peter, horticulturist, born in Pathhead, near Edinburgh, Scotland, June 25, 1823; died in Jersey City, N. J., Jan. 17, 1890. He received a village-school education, was apprenticed to a gardener when fifteen years old, secured two of the medals offered by the Botanical Society of Edinburgh for the best herbarium of native and exotic plants, and removed to New York city in 1840. After working in nurseries in Astoria, Long Island, and in Pittsburgh, Pa., he established himself as a market gardener in Jersey City in 1847, and remained there till his death. For many years he confined himself to his original business, and then gradually engaged in ornamental gardening, floriculture, and seed growing, becoming one of the foremost seedsmen in the country. He was

an acknowledged authority in his specialties, and gave annual exhibitions of flowers and plants in his New York store. He was author of "Gardening for Profit" (New York, 1866; 3d edition, 1886); "Practical Floriculture" (1868); "Gardening for Pleasure" (1875); "Handbook of Plants" (1881; revised edition, 1889); "Garden and Farm Topics" (1884); and "How the Farm pays" (1884).

Hewitt, John Hill, balladist, born in New York city, July 11, 1801; died in Baltimore, Md., Oct. 7, 1890. He was educated at the United States Military Academy, was one of the band of cadets who attempted to blow up the place, resigned from the army, and spent some time in the South studying law, teaching music, and writing for the press. In 1825 he settled in Baltimore. While he was engaged there in literary work, he and Edgar Allen Poe were rival contestants for prizes offered by a local paper for the best story and the best poem. Both writers tried for each prize. Poe won the story prize with "A Manuscript found in a Bottle," and Hewitt the poem prize with "The Song of the Wind." Each writer believed he should have received both prizes, and at their first meeting on the street they engaged in a knock-down fight. Besides his ballads, of which "The Minstrel's Return from the War" is the best known, Mr. Hewitt wrote the comedy of "The Governess," which was successfully produced, and the play "Washington; or One Hundred Years"; composed the oratorio "Jephtha's Daughter"; and published a collection of personal reminiscences, "Shadows on the Wall" (1877).

Hicks, Thomas, an American portrait and genre painter, born in Newtown, Bucks County, Pa., Oct. 18, 1823; died at Trenton Falls, N. Y., Oct. 8, 1890. He was one of the few representatives of what may

be termed the second period of American art, a period dominated by five portrait and landscape painters—Harding, Weir, Cole, Doughty, and Durand. Of this period, which dates from the foundation of the National Academy of Design, Harding was a leader in Boston and Henry Inman in New York, where the latter was soon followed by Elliott Baker, Page, Le Clear, Huntington, and Hicks, the contemporaries of Healy, Ames, Hunt, and Staigz, of Boston, and an older artist, Sully, of Philadelphia. Of the New York group, Mr. Daniel Huntington is now the only survivor. It was in early youth, at a time when the profession of art offered few inducements in this country, that Mr. Hicks began his studies at the Pennsylvania Academy of Design, continuing them at the National Academy in New York. Although he painted some landscapes, Mr. Hicks occupied himself for the most part with the figure, and his first important picture, exhibited in 1841, represented "The Death of Abel." In his earlier years the Düsseldorf Academy was the goal of American art students; but on his first visit to Europe, where he spent the years between 1845 and 1849, he studied in Paris under Couture in addition to the usual visit to Italy. Mr. Hicks, therefore, should share with William M. Hunt the honor of leading the American art movement toward Paris. In the course of his four years abroad he studied in London and Florence as well as in Paris and Rome, and in the latter city he painted several pictures of some importance, among them a half-length figure entitled "Italia." Such a prolonged period of foreign study was exceptional at the time, and undoubtedly did much to aid professional success. On resuming the active practice of his profession in New York, Mr. Hicks soon earned a high rank in popular estimation as a portrait painter. Among his sitters, who have included many of the most distinguished Americans of his lifetime, have been Mrs. Harriet Beecher Stowe, Lincoln, Longfel-



low, Bryant, Holmes, Halleck, Bayard Taylor, Gen. Meade, William M. Everts, and Henry Ward Beecher. His portraits of Hamilton Fish and Mayors Tiemann and Gunther are in the New York City Hall. Between 1851 and 1855 he painted a somewhat notable picture of the representative authors of the United States and another of the governors of New York. Mr. Hicks gained a substantial success in portraiture, and his best work is to be credited with an apt preservation of likenesses and a mellowness and sometimes a warmth of color probably attributable in part to the influence of Couture. His pictures were usually suave, pleasing, and elaborate rather than distinctively individual and powerful, and it can not be said that he exercised any marked influence upon the art of his time or that his work will be highly esteemed in the future for its technical qualities. Mr. Hicks became a member of the National Academy of Design in 1851, and he was deeply interested in the Artists' Fund Society, and was its president from 1873 to 1885.

Higgins, Alvin, manufacturer, born in Gray, Me., May 12, 1818; died in New York city, June 1, 1890. He was a son of a ship-builder in Portland, Me., served an apprenticeship with a firm of exporters in that city, and with his brother, Elias S. Higgins, came to New York city in 1837 and engaged in the retail carpet business, under the firm name of A. & E. S. Higgins. The firm built a factory in Jersey City in 1840 for the manufacture of carpets, being pioneers in this industry in the United States, and subsequently erected similar establishments in Brooklyn, Hallett's Cove, Astoria, Poughkeepsie, and Haverstraw. About 1852 he retired from the manufacturing business, and began investing his wealth in choice securities and up-town real estate, and for many years met with uniform success; but in late years he made injudicious investments, in which he lost much of his fortune.

Hogan, Thomas Matthew, artist, born in Dublin, Ireland, about 1842; died in Brooklyn, N. Y., April 6, 1890. He came to the United States when a boy, studied sketching and drawing on wood, and began his art career as a war pictorial correspondent for "Frank Leslie's Illustrated Newspaper" in 1861. He sketched many of the most important events of the civil war, including the scenes connected with the assassination of President Lincoln. Soon after completing a series of illustrations of the impeachment of President Johnson, he withdrew with Frank Schell from the Leslie establishment, and the two artists opened the studio in the Moffat Building so well known to artists, engravers, publishers, editors, and literary workers. The firm of Schell & Hogan was successful from the start, and there is scarcely a publisher of illustrated papers or books in the country who has not engaged the services of its members. Some of their most important work was done for magazines and books issued by Harper & Brothers, D. Appleton & Co., the Century Company, and Boston and Philadelphia firms. Both artists made many sketches and drawings on wood for "Picturesque Canada," and superintended the entire art work on that publication.

Holmes, Sydney T., lawyer, born in Schaghticoke, Rensselaer County, N. Y., Aug. 14, 1815; died in Bay City, Mich., Jan. 17, 1890. He accompanied his father's family to Morrisville, Madison County, N. Y., in 1819, received an academic education, spent five years as a civil engineer, and was admitted to the bar in 1841. In 1848 and 1850 he was appointed loan commissioner for Madison County, and in 1851, 1855, and 1859 he was elected judge and surrogate for the county, serving till 1864. In the latter year he was elected to Congress from the 22d New York District, and after serving one term resumed the practice of law in partnership with Roscoe Conkling in Utica, N. Y. In 1871, on account of the failure of his health, he removed to Bay City, and there became one of the foremost of trial lawyers.

Hosmer, Jean, actress, born in Silver Creek, N. Y., Jan. 29, 1842; died in Buffalo, N. Y., in January

1890. She attended Wyoming Seminary, in Alexander, N. Y., a short time, but showed a fondness for the dramatic stage when ten years old, and was a member of the ballet corps in the Metropolitan Theatre, Buffalo, before she was fifteen. Under the coaching of Barton Hill, she made her first appearance in a speaking part in the same theatre as Sally in "Jack Sheppard" in 1860, and soon became a pronounced favorite. From supporting star performers she became a leading lady, and her success as such led her to undertake starring. She made her first attempt in this line in Philadelphia during the season of 1863-'64, taking the part of Juliet to Barton Hill's Romeo. The death of her sister caused her to retire from the stage for two years, and she reappeared in the Winter Garden, New York city, playing as Bianca in "Fazio," the countess in "Love," Camille, Lucretia Borgia, Pauline Deschappelles, Parthenia, Mary Tudor, and Evadne. During recent years she had appeared irregularly as star and support, and had spent much time preparing pupils for the stage.

Howe, Joseph William, physician, born in Chatham, N. B., Sept. 30, 1843; died at sea, June 7, 1890. When fourteen years old he entered the printing office of his father's newspaper, the "Colonial Times," and after learning the trade became a reporter on the paper, and in 1861-'62 was provincial parliamentary reporter for the "Colonial Times" and the "Colonial Farmer." In 1862 he attended the academy at Fredericton, N. B., and began studying medicine; in 1863 he removed to New York city; and in 1866 he was graduated at the medical department of the University of New York. He at once entered Bellevue Hospital as a junior assistant, and was soon promoted to be house physician and house surgeon. In 1868 he was appointed attending physician of the Bureau of Medical and Surgical Relief for the Outdoor Poor of Bellevue Hospital, and also clinical Professor of Surgery in the medical department of the University of New York, and retained both offices till his death. He was also visiting surgeon to St. Francis Hospital and president of its medical board. Dr. Howe was a member of the New York Academy of Medicine and of the New York County Medical Society, was author of several technical treatises and editorially connected with the "Medical Journal," and was on his way to attend the International Medical Congress in Berlin when fatally attacked by apoplexy.

Howe, Walter, lawyer, born in New York city, May 3, 1849; died off Newport, R. I., Aug. 22, 1890. He was graduated at the College of the City of New York in 1868, and at the Law School of Columbia College in 1870, and afterward pursued a systematic course of study in French and German and in literature. He also studied water-color painting and landscape gardening, and had done excellent work in both of these branches from a pure love of artistic study. In 1883, 1884, and 1885 he was a Republican member of the New York Assembly, and there rendered his native city and the State a large service in combating political corruption. He was defeated for the State Senate, though he ran far ahead of his party ticket, in 1885; and on July 31, 1888, he was appointed by Mayor Hewitt a member of the reform Board of New Aqueduct Commissioners. Mr. Howe was a member and former Secretary of the Union League Club, and member of the Century, University, and Down-Town Clubs. He published "The Garden," a history of ornamental gardening from the Roman period. Though an expert swimmer, he was drowned while bathing.

Howes, Oscar, educator, born near Carmel, N. Y., April 20, 1830; died in Chicago, Ill., Feb. 6, 1890. He was graduated at Madison University in 1850, spent a year in post-graduate study at Rochester University, and traveled and studied abroad for two years. In 1855 he was chosen Professor of Greek and Latin in Shurtleff College; in 1863 made a second visit to Europe; in 1874 became Professor of Latin and Modern Languages in Madison University; and in 1882 was appointed to the chair of Modern Languages in the University of Chicago.

Hull, Joseph Bartine, naval officer, born in Westchester, N. Y., April 26, 1803; died in Philadelphia, Pa., Jan. 17, 1890. He studied in Cheshire Academy, and was appointed a midshipman in the United States navy from Connecticut, Nov. 9, 1813. His first service was on the frigate "Congress," attached to the fleet commanded by his famous uncle. He was commissioned a lieutenant, Jan. 3, 1825; commander, Sept. 8, 1841; captain, Sept. 14, 1855; retired, Dec. 21, 1861; and promoted commodore, July 16, 1862. During his naval career he was engaged in sea service twenty-two years and three months; on shore or other duty, fifteen years and three months; and was unemployed thirty-eight years and eight months. He commanded the sloop "Warren" on the Pacific coast in 1845-'47; the northern district of California for a short period before the close of the Mexican War; the receiving ship at Philadelphia in 1850-'51; the frigate "St. Lawrence" on the Brazilian station and in the Paraguay expedition in 1857-'59; and the "Savannah," of the blockading squadron off the coast of South Carolina in 1861. After his retirement, he was on special duty, superintending the building of gunboats on Mississippi river, in 1862-'64; commanded the navy yard at Philadelphia in 1865; was President of the Examining Board in Philadelphia in 1866-'67; and was light-house inspector for the 1st District, with headquarters at Portland, Me., from 1869 till 1873, when he wholly retired from duty and made his home in Philadelphia.

Jameson, John A., lawyer, born in Vermont, in 1824; died in Hyde Park, Ill., June 16, 1890. He was graduated at the University of Vermont in 1846; removed to Chicago, Ill.; served two terms as circuit judge of Cook County; and was Professor of Constitutional Law, Equity, and Jurisprudence in the University of Chicago in 1867-'68. Judge Jameson was also for many years assistant editor of the "American Law Register," and had written legal works.

Joachimson, Philip J., lawyer, born in Breslau, Germany, in November, 1817; died in New York city, Jan. 6, 1890. He came to the United States in 1827; studied law in New York city, was admitted to the bar, and was appointed assistant corporation attorney in 1840. In 1855 he became assistant United States district attorney, and, under special provision of an act of Congress, substitute United States attorney. For securing the first conviction for smuggling, the first capital conviction for slave trading, and the conviction of the Nicaragua filibusters, he received, through Attorney-General Caleb Cushing and by direction of President Pierce, the thanks of the Government for his successful prosecutions. He resigned at the time of the Kansas-Nebraska troubles, and was engaged in private practice till 1870, when he was elected a judge of the Marine Court of the City of New York, and on the expiration of his term, in December, 1876, resumed practice. At the beginning of the civil war he organized the 59th Regiment, New York Volunteers, went to the front as its lieutenant-colonel, was appointed United States paymaster, and stationed at Fort Monroe and in New Orleans; and after being discharged from the army was commissioned a brevet brigadier-general by Gov. Fenton. He was elected President of the Hebrew Benevolent Society in 1855, and first President of the Hebrew Orphan Asylum in 1859.

Johnson, Albert L., inventor, born in New Orleans, La., in 1828; died in New York City, Feb. 18, 1890. He lived in his native city till about 1870, and previous to the civil war was a successful planter. Losing much of his property, he removed to New York city and applied himself to mechanical study and inventions, particularly in the line of street-railroad traction. His most important invention was the automatic switch, now used by nearly every horse-car company in the country, and operated by one of the horses stepping upon it. On the expiration of his patent some time ago, many companies began using his invention without compensation, and he had many lawsuits on hand against such companies and others, who he

claimed had infringed on his patent before its expiration. He had received a decision of the courts that his claim for profits and damages was good, and was visiting his lawyers when he dropped dead.

Johnson, William, architect, born in Kingston-on-Hull, England, May 8, 1815; died in Brooklyn, N. Y., Sept. 26, 1890. He was educated in his father's business, that of architect and builder; removed to New York city early in life; and was engaged for many years in the erection of costly residences, churches, and other buildings, including the brick and marble row on Washington Square, near University Place. Soon after coming to the United States he became interested in the anti-slavery movement, and for a long time his office was known by the friends and objects of the movement as an important "station" on the "underground railroad." His convictions on the slavery question led him to withdraw from the Methodist Episcopal Church and connect himself with the Wesleyan Methodist organization. He had scholarly tastes, and collected a large library of modern and classical works and of early 15th and 16th century books.

Kay, Sidney de, military officer, born at Guttenberg, N. J., March 7, 1845; died in New Brighton, Staten Island, Aug. 30, 1890. His father was George Coleman de Kay, of New York, a commodore in the navy of the Argentine Republic, and his mother was the only daughter of the poet Joseph Rodman Drake. His family, originally French, came from Haarlem to New Amsterdam in 1630. After residing several years in Europe, he entered Sheffield Scientific School of Yale College shortly before the civil war. Early in 1862 he left school, enlisted as a private in the 71st New York Volunteers, and for distinguishing himself on the field was appointed a lieutenant in the 8th Connecticut Volunteers. Subsequently he served on the staffs of Gens. Butler, Devens, and Terry, and for bravery at the first attack on Fort Fisher and in other battles was brevetted captain and major. He was mustered out of service in December, 1865. In 1867 he joined the uprising of the Cretans against Turkey. The last undertaking in which he was there concerned was an attempt to blow up the Turkish flag-ship "Ibrahim Pacha," which was on blockading duty off the coast. The vessel had gone off on some temporary duty, leaving her anchors buoyed, to be used again on her return. During her absence De Kay, in a small boat, affixed a torpedo to the anchor chain and returned to shore, paying out wires to connect with an electric battery there. Upon the return of the vessel to her anchorage, De Kay attempted to fire the torpedo, but for some reason the wires refused to work and the attempt ended in failure. The torpedo was discovered by the Turks, and the warning they thus received induced them to remove the ship and raise the blockade from the north shore of the island. Soon after this Major De Kay was seriously wounded in the shoulder by a musket ball. In an attempt to reach the mainland, where proper surgical aid could be had, he was in a small boat, with scant food and water, for ten days. On his return to the United States he studied law, was admitted to the bar, held an appointment on the staff of Gov. John A. Dix, and became a United States district attorney.

Keegan, William, clergyman, born in King's County, Ireland, April 22, 1824; died in Brooklyn, N. Y., May 10, 1890. He accompanied his parents to the United States in 1842; was graduated at St. John's College, Fordham, N. Y., in 1853; was ordained a Roman Catholic priest in October of the same year, and was appointed assistant to the Rev. David W. Bacon in the Church of the Assumption, Brooklyn. In 1855, on the consecration of Father Bacon as first Bishop of the Diocese of Portland, Me., Father Keegan succeeded him as rector of the Brooklyn church, and in 1880 he was appointed vicar-general of the diocese of Long Island and a member of Bishop Loughlin's council. He also was chaplain of the St. Patrick's Society for many years. An unusual evidence of the esteem in which he was held was the placing at half-mast of flags on the public buildings in Brooklyn.

Kelley, William Darragh, legislator, born in Philadelphia, Pa., April 12, 1814; died in Washington, D. C., Jan. 9, 1890. He was of Irish and French Huguenot extraction; attended school till he was eleven years old; and was apprenticed to a jeweler from his fourteenth year till his majority. After completing his time, he followed his trade in Boston for five years, and then, returning to Philadelphia, studied law, and was admitted to the bar in 1841. In 1845 he was elected prosecutor for the city and county of Philadelphia, and held the office two terms, and was then elected judge of the Court of Common Pleas of Philadelphia. He held this office till 1856, and resigned to become a candidate for Congress as a Republican. Previous to this he had been a Democrat, a free-trader, and an abolitionist. In his first canvass for Congress he was defeated. He resumed private practice till 1860, when he was elected a delegate to the Republican National Convention, and also to Congress from the 4th Pennsylvania District. By re-elections he held the office continuously till his death, and as the oldest member in point of consecutive service was known as "the Father of the House." During his long service he was conspicuous as an advocate of high protective duties, and his earnest and constant championship of the pig-iron interest of his State caused him to be known familiarly as "Pig-Iron Kelley." He had served on the committees on agriculture, naval affairs, Indian affairs, weights and measures, and Centennial celebration, and at the time of his death was a member of the Committee on Ways and Means. Judge Kelley was both popular and effective as a lecturer, and as a writer on issues of the day had a large and appreciative following. Besides many political addresses and literary essays, he published: "Address to the Colored Department of the House of Refuge" (1850); "Reasons for abandoning the Theory of Free Trade and adopting the Principle of Protection to American Industry" (1872); "Letters from Europe" (1880); and "The New South" (1887).

King, Rufus H., lawyer, born in Kenseleersville, Albany County, N. Y., Jan. 20, 1820; died in Catskill, N. Y., Sept. 13, 1890. He was graduated at Wesleyan University, Lima, N. Y., was admitted to the bar in 1843, was elected to Congress in 1854, was President of the Catskill Bank from 1857 till 1868, and was a Republican presidential elector in 1860. In 1868 and 1880 he was a delegate to the National Republican conventions, and in the latter was one of the body of 306 delegates who voted to nominate Gen. Grant for a third term. On May 5, 1885, he was elected President of the Catskill Savings Bank.

Klutschak, Henry W., explorer, born in Prague, Bohemia, in 1848; died in New York city, March 26, 1890. He was a son of the editor and proprietor of the "Bohemia" newspaper in Prague, was educated for a civil engineer, became a skillful draughtsman, and settled in the United States in 1870. Almost immediately on his arrival he engaged for a whaling voyage to Repulse Bay, Greenland, which lasted nearly three years, and on his return he accompanied a seal-hunting expedition from New London to the Antarctic Ocean. At the expiration of this cruise he was employed on several transatlantic steamships as an interpreter, till the expedition to search for the Sir John Franklin records was fitted out in 1877, when he joined the party as the artist. In July, 1878, he sailed in the "Eothen" for Marble Island, in company with Lieut. Frederick Schwatka, William H. Gilder, Frank Melius, and "Esquimaux Joe." While in the Arctic regions he made the sketches afterward published by Harper & Brothers and the "London Illustrated News," and discovered the remains of Lieut. Irving, one of Sir John Franklin's officers. After returning from the expedition, he lectured on it in Austria and Germany; was decorated with the Cross of Honor by the Emperor of Austria; and, making his home in New York city, spent the remainder of his life in humble service, though possessing much skill as an artist and a civil engineer.

Lapham, Elbridge Gerry, lawyer, born in Farmington, Ontario County, N. Y., Oct. 18, 1814; died in Glen Gerry, Canandaigua lake, N. Y., Jan. 8, 1890. He was brought up on a farm, subsequently studied in Canandaigua Academy, where he had Stephen A. Douglas for a classmate; became a civil engineer, and was employed in the construction of the Michigan Southern Railroad; and was admitted to the bar in 1844. He established himself in practice in Canandaigua, and resided there till his death. In 1867 he was elected a member of the New York Constitutional Convention, and in 1874, 1876, 1878, and 1880 was elected to Congress from the 27th New York District as a Republican, serving in that body on the judiciary committee. After the resignations of Roscoe Conkling and Thomas C. Platt as United States Senators from New York in 1881, Mr. Lapham became the nominee of the Republican caucus of the Legislature for Mr. Conkling's former seat, and on July 22, in the joint convention of the Legislature, he first received 63 votes, with 40 for Clarkson N. Potter, 28 for Roscoe Conkling, and 1 for Stewart L. Woodford. On the second ballot he received 92 votes, with 42 for Mr. Potter and 65 necessary for a choice. He was accordingly declared elected for the term expiring March 3, 1885, and took his seat on Oct. 11 following his election. In the Senate he was chairman of the committee on fisheries, and a member of the standing committees on foreign relations, patents, and elections, and of the select committee on woman suffrage.

Lay, Oliver Ingraham, artist, born in New York city, Jan. 31, 1845; died in Stratford, Conn., June 28, 1890. He studied painting in Cooper Union Art School, in the National Academy of Design, and with Thomas Hicks; was elected an associate of the Academy in 1876, and was a member of the Artist Fund Society and of the Century Club. He had had a studio in the Young Men's Christian Association building for nearly twenty years, and had distinguished himself as a painter of portraits and figures. Among his portraits are those of Robert and Cornelius Ray and Nathaniel Prime, in the Chamber of Commerce Collection; Gen. Grant, in the United States Bank; and Aaron Burr, in the Century Club. One of his most pleasing sketches is that of Edwin Booth as "Hamlet."

Lester, Charles Edwards, author, born in Griswold, Conn., July 15, 1815; died in Detroit, Mich. Jan. 29, 1890. He studied law and theology, and began preaching, but was soon obliged to abandon it on account of weak lungs. In 1840 he went to England as one of the American delegates to the Exeter Hall Anti-Slavery Convention, as well as for his health, and while there was appointed United States consul at Genoa, Italy, where he resided six years. On returning to the United States he made his home in New York city till within a short time of his death, and engaged in editorial and general literary work. His publications include: "The Glory and Shame of England (2 vols., New York, 1811), praising England for emancipating slaves in her West India colonies, and condemning her for the slavery permitted in the home factories and coal mines; "Condition and Fate of England" (1842); "The Artist, Merchant, and Statesman" (1845); "Life and Voyages of Amerigo Vesputius" (1846); "Artists in America" (1846); "My Consulship" (2 vols., 1851); "The Napoleon Dynasty" (1852); "Life and Public Services of Charles Sumner" (1874); "Our First Hundred Years" (1874); "America's Advancement (1878); "The Mexican Republic" (1878); "History of the United States" (2 vols., 1883); and "Life and Achievements of Sam Houston" (1883); besides several translations.

Lincoln, Abraham, student, born in Chicago, Ill., in 1871; died in London, England, March 5, 1890. He was the grandson of the martyred President, and the only son of Robert Todd and Mary Harlan Lincoln. He pursued preparatory studies in Washington while his father was Secretary of War, and afterward in the University School in Chicago, with the intention of entering Harvard University and subsequently studying law. On the appointment of his father to be

United States minister at the Court of St. James, he reluctantly abandoned his preparatory studies, and accompanied the family to London. Soon afterward he entered a private school in Versailles to learn the French language. In October, 1889, a carbuncle developed on his shoulder. This was cut out, and an abscess formed which baffled the skill of the best French and English physicians. He was a robust and studious boy, well advanced in Greek, Latin, mathematics, English literature, and French, and a favorite with all who knew him.

Lyman, Chester Smith, educator, born in Manchester, Conn., Jan. 13, 1814; died in New Haven, Conn., Jan. 29, 1890. He was graduated at Yale College in 1837, taught in Ellington, Conn., two years, then entered Union Theological Seminary in New York city, and completed his course in Yale Divinity School in 1842. On Feb. 15, 1843, he was ordained pastor of the First Congregational Church in New Britain, Conn., but failing health soon compelled him to seek a change of climate, and in October, 1845, he sailed for the Sandwich Islands. During his year's sojourn there he taught four months in the Royal School in Honolulu, and from personal observations of the volcano of Kilauea established some principles of volcanic action previously unknown. In June, 1847, he sailed for California, where he spent more than two years in surveying the newly discovered gold regions, and in April, 1850, he returned to New Haven. He was appointed Professor of Industrial Mechanics and Physics in Yale Scientific School in July, 1859, and was thus active in organizing that department of the university. In 1871 the branch of mechanics was taken from his professorship, the title of which was changed to Astronomy and Physics. He retained this chair till 1884, when he was relieved of the charge of physics. In October, 1886, a stroke of paralysis obliged him to relinquish his favorite branch of astronomy; and in 1889 he was made emeritus Professor of Astronomy.

Lyman, Joseph, lawyer, born in Lyons, Mich., Sept. 13, 1840; died in Council Bluffs, Iowa, July 9, 1890. He had just entered college when the civil war broke out. Abandoning his studies, he enlisted as a private in the 4th Iowa Cavalry. From Oct. 19, 1862, till Feb. 21, 1865, he was adjutant of the 29th Iowa Infantry; in 1864 was aide-de-camp and inspector-general on the staff of Brig.-Gen. Samuel A. Rice; from Feb. 21, 1865, till Aug. 10 was major of his regiment; and from Feb. 1, 1865, till mustered out of the service he was aide-de-camp and acting assistant adjutant-general on the staff of Maj.-Gen. Frederick Steele. After the war he studied law and was admitted to the bar, and had since practiced at Council Bluffs. He was deputy collector of internal revenue for the 5th Iowa District from Jan. 1, 1867, till March 1, 1870; was circuit judge of the 13th Iowa Judicial District from Jan. 1 till Dec. 31, 1884; and was elected to Congress from the 9th Iowa District as a Republican in 1886 and 1888. He served on the committees on war claims, expenditures in the State Department, admission to the floor (select), and on elections.

Lynde, Thomas A., actor, born in Philadelphia, Pa., in 1806; died in Salt Lake City, Utah, March 31, 1890. He was believed to be oldest American actor, and made his first appearance on the stage at the Walnut Street Theatre, Philadelphia, in the part of William Tell, about 1828. After achieving success in his native city, he spent several years in New Orleans and other Southern cities; was ambuscaded with a party of actors by the Indians in Florida during the Seminole war, and narrowly escaped death; came to New York and played at the Park Theatre under Simpson's management, and at the old Bowery Theatre with Forrest, Booth, and Ingersoll, when Thomas Hamblin was manager; and took the Pioneer Theatrical Company to Detroit, Chicago, and Milwaukee from Buffalo. In 1862 he went to Salt Lake City to manage Brigham Young's newly established theatre, and for a time was an acknowledged Mormon; but afterward he became an aggressive opponent of the Church, and lived to see

his prediction fulfilled that the Gentiles would carry a popular election.

McAlpine, William Jarvis, civil engineer, born in New York City, in 1812; died in New Brighton, Staten Island, Feb. 16, 1890. He began his professional career on the Erie Canal in 1827, and was connected with that work till 1846, being for many years one of the chief engineers. In June, 1846, he was appointed chief engineer of the construction of the dry docks in Brooklyn Navy Yard. In 1857 he was elected State Engineer of New York, in 1859 was appointed a State railroad commissioner, in 1868 was elected President of the American Society of Civil Engineers, and in 1870 he competed successfully for the prize offered by the Austrian Government for the best plans for improving the cataracts of the Danube. He built the original water works at Albany and Chicago, was acting president and chief engineer of the Erie Railway for two years, was engineer of several large Western railroads, and was one of the consulting engineers in the construction of the new Capitol at Albany. He received the first American honorary membership in the London Society of Civil Engineers.

McCrory, George Washington, lawyer, born near Evansville, Ind., Aug. 29, 1835; died in St. Joseph, Mo., June 23, 1890. When he was a year old the family removed to the part of Wisconsin Territory now in the State of Iowa. He received a public-school education, studied law, and was admitted to the bar in 1856. In the following year he was elected to the State Legislature; in 1861 was elected to the State Senate, where he served four years and was chairman of the committees on military affairs and the judiciary; and in 1863 he took Judge Miller's place in the law firm of Rankin and Miller, in Keokuk. In 1868 he was elected to Congress from the 1st Iowa district as a Republican, and in 1870, 1872, and 1874 was re-elected. While a member of Congress he served on the committees on naval affairs, revision of laws, elections, railways and canals, and the judiciary; was author of the law under which the judiciary of the United States was reorganized; proposed the joint committee on counting the electoral vote; and was active in preparing and passing the Electoral bill. On the inauguration of President Hayes, Mr. McCrory was appointed Secretary of War, and he held the office till 1879, when he was appointed judge of the 8th Judicial District. In 1884 he resigned this office and removed to Kansas City, Mo., to assume the duties of general consulting attorney of the Atchison, Topeka and Santa Fé Railroad Company. He published "American Law Elections" (Chicago, 1875).

McCreery, Thomas Clay, lawyer, born in Davies County, Ky., in 1817; died in Owensborough, Ky., July 10, 1890. He was educated and admitted to the bar in his native county, and besides practicing his profession was for many years engaged in farming. In 1852 he was a Democratic presidential elector, and in 1868 was elected United States Senator to succeed James Guthrie, resigned. He served till 1871, and after an interval of two years was re-elected to succeed Willis B. Maclen for the term ending March 3, 1879. During his first term he attracted wide attention by introducing and supporting a resolution to appoint a committee to inquire into the ownership of Arlington Heights, and to consider the propriety of disinterring the remains of national soldiers buried there and of restoring the property to the family of Gen. Robert E. Lee. The resolution was forced to a vote by the Republicans, and defeated. In his second term he served on the committees of foreign relations, Indian affairs, and civil service and retrenchment. He had twice been an unsuccessful candidate for Congress and for Governor of Kentucky.

McHenry, Henry D., lawyer, born in Hartford, Ky., Feb. 27, 1826; died there, Dec. 17, 1890. He was graduated at Transylvania Law School in 1845; was a member of the State House of Representatives in 1851-'53, of the State Senate in 1861-'65, and again of the House of Representatives in 1865-'67; was elected to Congress from the 2d Kentucky District as

a Democrat in 1870, and had been a member of the Democratic National Committee since 1876.

McKee, George C., lawyer, born in Joliet, Ill., Oct. 2, 1837; died in Jackson, Miss., Nov. 17, 1890. He received a collegiate education, was admitted to the bar on attaining his majority, served as city attorney of Centralia, and practiced law till the beginning of the civil war. In April, 1861, he enlisted in the Eleventh Illinois infantry, served through the war, was wounded at Fort Donelson, Shiloh, and Vicksburg, and was mustered out of the service with the rank of brigadier-general, having defeated the Confederates in their assault on Yazoo City, March 6, 1864. After the war he settled in Vicksburg and resumed law practice. He was appointed Register in Bankruptcy in 1867, was a member of the Mississippi Constitutional Convention, and was elected to Congress from the 5th Mississippi District as a Republican in 1866, but the State was refused admission. He was re-elected in 1868, 1870, and 1872. He also served for four years as postmaster at Jackson.

McKibbin, David B., military officer, born in Pittsburgh, Pa., in 1831; died in Washington, D. C., Nov. 8, 1890. He was appointed a cadet in the United States Military Academy in 1846, but was compelled by failing health to withdraw soon afterward. At the beginning of the Mexican War he enlisted as a volunteer aid to Gen. Bankhead. He took the Mexican fever early in the campaign, and retired from the army. On March 8, 1855, he was appointed 2d lieutenant in the 9th United States Infantry. He was promoted 1st lieutenant March 1, 1861, and captain in the 14th Infantry May 14; transferred to the 32d Infantry Sept. 21, 1866; promoted major of the 10th United States Infantry Sept. 15, 1867; and retired on account of disability incurred in the line of duty May 31, 1875. In the civil war he was commissioned colonel of the 155th Pennsylvania Infantry Nov. 24, 1862; mustered out of the volunteer service Aug. 12, 1863; and brevetted colonel, brigadier-general, and major-general of volunteers for gallant and meritorious services during the war, March 13, 1865. He was wounded in action several times, was captured at Bull Run, and was frequently mentioned in general orders and reports for gallantry.

McLean, Washington, journalist, born in Cincinnati, Ohio, in 1816; died in Washington, D. C., Dec. 8, 1890. He was of Scottish descent, had limited educational advantages, and was apprenticed to the boiler-making trade. After serving his time he associated with him a former shopmate and established an independent boiler shop, the partners erecting the building with their own hands after working hours. He studied hard to overcome the deficiencies of his early education, applying himself particularly to history and politics, and by the time he was thirty-five years old he knew intimately every politician of note in Ohio and many of the leaders in national affairs. His business had prospered, and he had accumulated a fortune for that period. About 1852, in partnership with James J. Faren, he bought the Cincinnati "Enquirer," the principal organ of the Democratic party west of the Alleghenies, and, with his partner as editor, he directed its business and policy for nearly a quarter of a century, and then relinquished its active management to his son, John R. McLean. About 1882 he removed to Washington, where he made large investments in real estate. While managing the "Enquirer" he was considered one of the shrewdest politicians in the country, and was known in the West as "the Warwick of the Democratic party."

McManus, James T., clergyman, born in the County Cavan, Ireland, in 1811; died in Geneva, N. Y., June 28, 1890. He received his preparatory education in Carlow College, Ireland, came to the United States in 1848, and completed his studies in St. John's College, Fordham, N. Y. In 1851 he was ordained a Roman Catholic priest, and assigned to parish work in Oswego, Waverly, and Ithaca; and in 1858 he was transferred to the parish of St. Francis de Sales's Church in Geneva, with which he remained until his death. He

was appointed vicar-general of the Roman Catholic diocese of Rochester, N. Y., in 1886, in succession to the Rev. James M. Early, and in August, 1889, Pope Leo XIII created him a monsignor of the papal household. His investiture was delayed till Dec. 11 following, on account of his impaired health, and after the ceremony he was prostrated till his death.

McNary, William Henry, soldier, born in Brooklyn, N. Y., in 1832; died there, March 7, 1890. He was for many years a member and captain in the 14th Regiment of militia, and, going to the front at the beginning of the civil war as lieutenant-colonel of the 158th New York Volunteers, served continuously with the regiment, and at the close of the war was brevetted brigadier-general for gallantry. He was an active member of the Grand Army of the Republic.

Malcolm, William, inventor, born in Sullivan, Madison County, N. Y., Oct. 13, 1823; died in Syracuse, N. Y., July 12, 1890. He was educated for a professional career, but turned his attention to the study of mechanics, and engaged in the manufacture of firearms. Subsequently he became deeply engrossed with the study of optics, as a diversion from business routine, and, as he grew to be familiar with lenses, he set himself the task of improving on the best that could be had. He made an instrument with which he could discern the grain in the knots in a barn door four miles from his experimenting station, and then sought to perfect one that would not require adjustment for varying distances, but, like the eye, would take in all within its range at one focus. In spite of the discouragement of opticians and astronomers, he accomplished his purpose by using a combination of several lenses (adjusted to each other on a plan the secret of which died with him), and diaphragming them down so that all the divergent rays were excluded, leaving only the center ones as in the human eye. He designed his telescopes for observatory and ordnance use, and supplied them to the Lick Observatory, in California; the Royal Observatory, in Greenwich; and the United States, English, Russian, and Italian governments, for use with their heavy ordnance.

Mallory, Charles Henry, merchant, born in Mystic, Conn., about 1819; died in Brooklyn, N. Y., March 21, 1890. He was a son of Charles Mallory, the well-known ship builder and owner of a large fleet of whaling and merchant vessels, was educated in his native town, went to sea when sixteen years old, and commanded a brig when twenty-one. He followed the sea for eight years, then became associated with his father in ship building at New London, Conn., engaged in the coasting and California trade, and at the beginning of the civil war built several war vessels for the Federal Government. In 1862 he was elected a State Senator as a Republican. In 1865 he established the firm of C. H. Mallory & Co., in New York, which for years controlled the trade with Brazil, New Orleans, Galveston, and Key West. He was active in business till within nine months of his death.

Marigny, Mandeville de, historical personage, born in New Orleans, La., in 1810; died there, June 3, 1890. He was a son of Bernard Marigny, a wealthy planter of Louisiana, who, like his ancestors in France, was an unwavering adherent of the royal family, and was one of the first to extend hospitality to Louis Philippe when he was driven to exile in the United States. The dethroned King stood godfather to Mandeville at the baptismal ceremony, and after his restoration created the father a chevalier of France, and requested him to send his son to Paris as a special object of royal favor. When eighteen years old Mandeville was an officer in the King's Guards, and after returning to New Orleans and marrying the youngest daughter of W. C. C. Claiborne, first Governor of Louisiana, he resumed his residence in Paris, and his wife was appointed one of the ladies of honor of the court. Some time afterward the husband and wife became estranged; the former returned to New Orleans, and the latter, with their daughter, remained in Paris. During a part of the civil war Mandeville was colonel of the 15th Louisiana Regiment in the Confederate

service. In late years, having lost his fortune, he made a scant living in connection with the civil court. His wife died in New York city, on Feb. 21, 1890.

Mather, Richard Henry, scholar, born in Binghamton, N. Y., Feb. 12, 1835; died in Amherst, Mass., April 18, 1890. He studied at Amherst in the class of 1856, left college at the close of his junior year, spent a year in traveling through Europe and the East, and then joined the class of 1857. After his graduation at the head of his class, he returned to Europe, and studied philology at Berlin. From 1859 to 1861 he was instructor in Greek at Amherst, and he continued in the service of the college until his death. He was made assistant Professor of Greek in 1861, and Professor of Greek and German in 1864. Soon after 1870 Prof. Mather became interested in the fine arts, and in 1879 he dropped German and was made Lecturer on Sculpture. An art museum was opened in Williston Hall in 1874, Prof. Mather having visited Europe to make a selection of casts, engravings, photographs, etc. This museum supplemented the art lectures and became a notable factor in the training of the students. The museum contains casts of most of the famous antique marbles, as well as specimens of the work of Michael Angelo and many of the old masters. It also contains fine specimens of mediæval and modern statuary and antique busts; and the collection of bas-reliefs is exceptionally good. The miscellaneous casts include the Rosetta stone, the vase of candelabrum from the Aprian Way, the Bacchanalian vase, a well-executed plan of the Acropolis, and the newly acquired statue of Minerva, which is claimed to be a truthful representation of the statue in ivory and gold in the Parthenon. Prof. Mather went abroad again in 1888, when he prepared a course of lectures on Greek life, taking occasion to add to the art collection such specimens as would illustrate the subject. Prof. Mather prepared several college text-books, which include selections from Herodotus and Thucydides, the "Electra" of Sophocles, a manual of sculpture, the "Prometheus bound" of Æschylus, and lectures on sculpture. He received the degree of D. D. from Bowdoin College in 1879. He was never settled as a pastor, but frequently filled pulpits in Boston and New York, and was well known for his oratorical powers.

Miles, William B., clergyman, born in Jackson, Miss., in 1848; died in New Orleans, La., Sept. 14, 1890. He was educated at Spring Hill College, Mobile, and in religious colleges in France and Spain. He entered the Roman Catholic Society of Jesus in 1866, and settling in New Orleans, became president of the Jesuit College and pastor of the Church of the Immaculate Conception there. He was an eloquent and learned man, and master of several languages.

Miller, Samuel Freeman, jurist, born in Richmond, Ky., April 5, 1816; died in Washington, D. C., Oct. 13, 1890. He was graduated at the medical department of Transylvania University in 1838; practiced a short time in his native town and for eight years in Barbourville; and then abandoned the practice of medicine, studied law, and was admitted to the bar in 1847. In the following year he was active in the political canvass, and bold in his denunciation of slavery. His sympathy with the anti-slavery movement made him unpopular in his native State, and induced him to remove to Keokuk, Iowa, in 1850. There he became more aggressive than before, and soon was recognized as a leader among the men who four years afterward organized the Republican party. With all his activity in public life he declined public office. When the reorganization of the United States Supreme Court was suggested by President Lincoln in 1861, many lawyers, judges, politicians, and citizens in the Western States united in a petition to the President to appoint Mr. Miller to one of the judgeships. The President complied, the Senate confirmed the nomination without reference, and Judge Miller's commission was issued July 16, 1862. He held this office till his death, and for many years was the senior justice of the court. Among his notable official acts were the

opinions on the Louisiana slaughter-house cases, in which he defined the differences between the rights of the Government and those of the States, and on the Kilbourn-Thompson case, where the constitutional authority of Congress as a co-ordinate branch of the Government was for the first time defined and limited; and the motion before the Electoral Commission in 1877, which led to the judgment that Congress had no authority to go behind the returns of the legal officers of a State. He was also selected by his associates on the commission to prepare the reports to Congress explaining the position assumed by the majority on each point that arose for decision. At the centennial celebration of the adoption of the Federal Constitution, in Philadelphia, in September, 1887, he was the principal orator. Judge Miller had received the degrees of LL. D. and D. C. L. from several colleges.

Mitchell, Charles Le Moyné, manufacturer, born in New Haven, Conn., Aug. 6, 1844, died in New York city, March 1, 1890. He was graduated at Cheshire Academy in 1863; spent two years traveling in Europe, Asia, and Africa; and on his return entered a manufacturing firm in New Haven. In 1877 he was a member of the State House of Representatives; in 1882 he was elected to Congress from the 2d Connecticut District as a Democrat; and in 1884 was re-elected. In 1886 he removed to New York city, and became a member of the firm of Mitchell, Vance & Co. While in Congress he served as a member of the standing Committee on Patents, and of the select committee on reform in the civil service.

Moffat, James Clement, educator, born in Glenecree, Scotland, May 30, 1811; died in Princeton, N. J., June 8, 1890. He was apprenticed to the printer's trade, and while following it pursued a regular course of study with such diligence that in 1833, after being in the United States one year, he entered Princeton College, where he was graduated in 1835. He then took a post-graduate course in Yale College of two years, and returned to Princeton in 1837 as a tutor in Greek. In 1839 he was appointed Professor of Greek and Latin in Lafayette College, Easton, Pa.; in 1841 Professor of Latin and Modern History in Miami University, Oxford, Ohio; and in 1852 Professor of Greek and Hebrew in Cincinnati Theological Seminary. The following year he became Professor of Latin and History at Princeton, and a year later took the chair of Greek and Church History there. From 1861 till 1887 he was Professor of Church History in Princeton Theological Seminary, also teaching Greek Literary History till 1877. He received the degree of D. D. from Miami University in 1853. His publications comprise "Life of Dr. Chalmers" (Cincinnati, 1853); "Introduction to the Study of Æsthetics" (1856; new edition, 1860); "Comparative History of Religions" (New York, 1871-'73); "Song and Scenery" (1874); "Alwyn," poem (1875); "The Church in Scotland" (Philadelphia, 1882); and "Church History in Brief" (1885).

Monteith, James, geographer, born in Strabane, County Tyrone, Ireland, in 1831; died in New York city, Sept. 11, 1890. He came to New York city in 1835, received a common-school education, and was appointed a teacher in Public School No. 13 in 1852. Early in his career he recognized the inadequacy of



the geographical text-books, and began a series of special studies with the intention of compiling a standard geography. His skill as a draughtsman enabled him to prepare the maps and illustrations to accompany the descriptive text. In 1861 he submitted to the publishing house of A. S. Barnes & Co. the material for his first geographical publication, and this firm promptly brought it out. The preparation of this work had compelled him to resign his appointment as teacher, and after its publication he applied himself wholly to the compilation of geographical and historical works. His publications include a "History of the United States," series of school geographies, treatises on map-drawing, pictorial charts of geography, large school maps, and Biblical maps of Canaan, Palestine, and the travels of St. Paul.

Morey, Frank, planter, born in Boston, Mass., July 11, 1840; died in Washington, D. C., Sept. 22, 1890. He received a public-school education, removed to Illinois in 1857, and engaged in agricultural and mercantile pursuits and studied law. He joined the 33d Illinois Infantry in 1861, and served till the close of the war, chiefly on staff duty. Settling in Louisiana in 1866, he engaged in cotton planting and the insurance business. In 1868-'69 he was a member of the Legislature; subsequently was appointed a commissioner to revise the statutes and codes of the State; and in 1868, 1870, 1872, and 1874 was elected to Congress from the 5th Louisiana District as a Republican. In the last election the returning board certified to his election, and he held the seat till May 31, 1876, when the House of Representatives formally declared that William B. Spencer, his Democratic opponent, had been elected, and the latter was sworn in on June 8.

Morgan, Junius Spencer, banker, born in West Springfield (now Holyoke), Mass., April 14, 1813; died in Monte Carlo, Monaco, April 8, 1890. He removed to

Hartford, Conn., when a boy, worked in a dry-goods store till he became of age, spent eighteen months in a banking house, then became junior partner in a large dry-goods house, and in 1851 established the dry-goods house of Beebe, Morgan & Co. in Boston, which became one of the largest in the United States. In 1853 he went to London on business for his firm, and becoming acquainted with George Peabody, was offered a partnership in the banking house of George Peabody & Co., which he accepted in the following year. On the retirement of Mr. Peabody, in 1864, Mr. Morgan became head of the firm, and changed the name to J. S. Morgan & Co. He remained abroad till 1877, when, on a visit to the United States, he was given a dinner in New York city, at which many millions of dollars were represented and Samuel J. Tilden presided. He was eulogized for the influential part he had borne as a financier in upholding the foreign credit of American institutions. In life he gave \$50,000 to Trinity College, Hartford, and \$25,000 to the Hartford Orphan Asylum, and subscribed \$100,000 for the establishment of a free public library in Hartford, which sum, in addition to \$50,000 subscribed by his son, John Pierpont Morgan, was conditional on the raising of a building fund of \$400,000. He also gave a large and valuable painting, by Sir Joshua Reynolds, to the Metropolitan Museum of Art in New York city, and a complete series of *fac-similes* of manuscripts in London relating to America in 1763-'83 to Yale University and the Connecticut Historical Society. He left a personal estate sworn at \$9,827,192, and bequeathed large sums to his relatives, partners, clerks, and servants.



Morgan, Matthew Somerville, artist, born in London, England, April 27, 1839; died in New York city, June 2, 1890. He was a son of Matthew Morgan, an actor and music teacher, and of Mary Somerville, an actress and singer. He studied scene painting, followed it for several years at the Princess Theatre, London, and abandoned it to become an artist and correspondent for the "London Illustrated News." Subsequently he studied art in Paris, Italy, and Spain, and in 1858 penetrated to the interior of Africa by way of French Algeria. In the following year he was art correspondent for the "Illustrated News" during the Austro-Italian war. He afterward became artist, joint-editor, and proprietor of the "Tomahawk," a comic illustrated paper, for which he drew a series of notable cartoons, and also a founder of London "Fun." In 1867-'69 he was principal scene painter at Covent Garden Theatre, and 1870 came to the United States under an engagement with Frank Leslie as caricature artist for his "Illustrated Newspaper." He was engaged in theatrical lithography in Cincinnati in 1880-'85, and while in that city founded an art pottery company and the Art Students' League. In 1887 he returned to New York city, and was there employed till his death in scene painting and in drawing for periodicals. He had painted altar pieces for Roman Catholic churches; a large picture in oil, "Christ entering Jerusalem," which was exhibited in the principal cities; a series of panoramic battle scenes in the civil war; several water colors for the exhibitions of the Water-Color Society; and at the time of his death was completing the scenery for the new Madison Square Garden, New York.

Nevin, Alfred, clergyman, born in Shippensburg, Pa., March 14, 1816; died in Lancaster, Pa., Sept. 2, 1890. He was graduated at Jefferson College in 1834, and was admitted to the bar at Carlisle, Pa., in 1837; but studied theology and was graduated at the Western Theological Seminary in 1840. The same year he became pastor of Cedar Grove Presbyterian Church, Lancaster County, Pa. He remained there five years; held pastorates in Chambersburg seven years, and in Lancaster city five years, and organized and was pastor of the Alexander Church in Philadelphia from 1857 till 1861. In 1861 he founded and became editor of "The Standard," which, on his relinquishing it in 1866, was merged into "The Northwestern Presbyterian" of Chicago. From 1872 till 1874 he edited "The Presbyterian Weekly," from 1875 till 1880 he was chief editor of the "Presbyterian Journal," and from 1878 till 1880 he was a lecturer in the National School of Oratory in Philadelphia. He was a founder of the Presbyterian Historical Society, member of the Presbyterian Board of Publication, trustee of Lafayette College, moderator of the Synod of Philadelphia in 1856, several times a commissioner to the General Assembly, and its representative in other denominational bodies. He received the degrees of D. D. from Lafayette College and LL. D. from the Western University of Pennsylvania. Dr. Nevin was author of many works, including: "Christian's Rest" (Lancaster, 1843); "Spiritual Progression" (Chambersburg, 1848); "Churches of the Valley" (Philadelphia, 1852); "Guide to the Oracles" (Lancaster, 1857); "Words of Comfort" (New York, 1867); "The Age Question; a Plea for Christian Union" (Philadelphia, 1868); "Popular Expositor of the Gospels and Acts" (4 vols., Philadelphia, 1872); "The Voice of God" (1873); "The Sabbath-School Help" (1873); "Notes on Exodus" (1873); "Notes on the Shorter Catechism" (1878); "Prayer-Meeting Manual" (1880); "Glimpses of the Coming World" (1880); "Parables of Jesus" (1881); "Encyclopedia of the Presbyterian Church in the United States of America" (1884); "Folded Leaves" and "Twelve Revival Sermons" (1885); and "Presbyterian Year-Book for 1887-'88."

Noble, Butler Gilbert, lawyer, born in Geneva, N. Y., in 1816; died in Brooklyn, N. Y., Oct. 25, 1890. He received a common-school education, studied law, and was admitted to the bar. He removed to Wis-

consin in 1857, was elected lieutenant-governor of the State in 1859, and on the appointment of Gov. Randall as United States minister to Italy in 1860, succeeded to the executive chair for the unexpired term of two years. During his incumbency he was active in raising, equipping, and forwarding volunteers to the national armies. In 1864 he removed to Brooklyn, where he resided until his death. After being a weigher in the New York custom-house, he was harbor master four years and chief clerk in the seizure department nine years.

Noyes, Edward Follensbee, lawyer, born in Haverhill, Mass., Oct. 3, 1832; died in Cincinnati, Ohio, Sept. 4, 1890. He was apprenticed to the printer's trade when fourteen years old, and was graduated at Dartmouth College in 1857. He was graduated at the Cincinnati Law School in 1858, and entered on a successful practice. At the beginning of the civil war he turned his law office into a recruiting office, and on July 27, 1861, he was commissioned major of the 39th Ohio Infantry. He was promoted lieutenant-colonel July 8, 1862, took part in the battles of luka and Corinth; was promoted colonel Oct. 1, 1862; commanded his regiment in the battles of Resaca, Dallas, and Kenesaw Mountain; received a wound that caused the loss of a leg while leading an assault at Ruff's Mills on July 4, 1864; was brevetted brigadier-general March 13, 1865; and commanded Camp Dennison from his convalescence till April 22, 1865. He then resigned from the army, became city solicitor of Cincinnati, was elected probate judge of Hamilton County as a Republican in 1866, was elected Governor of Ohio in 1871, and was defeated for re-election in 1873. In 1877 he was appointed United States minister to France. He made several official trips to Turkey during her war with Russia, and was a special United States commissioner to the Paris Exposition. He resigned his office in August, 1881, resumed practice in Cincinnati, and in 1889 was elected judge of the Superior Court of that city.

O'Connor, James, clergyman, born in Queenstown, Ireland, Sept. 10, 1823; died in Omaha, Neb., May 27, 1890. He was a younger brother of Michael O'Connor, the first Roman Catholic Bishop of Pittsburgh, and came to the United States in 1838. He was educated in the Seminary of St. Charles Borromeo in Philadelphia and in the Urban College in Rome, Italy, and was ordained a priest in the Roman Catholic Church, in Rome, in 1845. On his return to the United States he was engaged in missionary labor in the Pittsburgh diocese for seven years, was appointed superior of St. Michael's Theological and Preparatory Seminary at Glenwood, near Pittsburgh, in 1857, and, resigning this office, was appointed Director of the Seminary of St. Charles Borromeo in 1863. While holding the latter office he was also Professor of Philosophy, Moral Theology, and Ecclesiastical History. In 1863 he became pastor of St. Dominic's Church in Holmesburg, Pa.; in 1876 was elected vicar apostolic of Nebraska and was consecrated titular Bishop of Dibona on Aug. 20. In 1885, when Nebraska was made the diocese of Omaha, he became its bishop. He founded Creighton College, Omaha, in 1879, and attended the Plenary Council in Baltimore in 1884.

O'Reilly, John Boyle, journalist, born in Douth Castle, County Meath, Ireland, June 28, 1844; died in Hull, Mass., Aug. 10, 1890. He was a son of William David O'Reilly, a noted mathematician and scholar, who was master of the Nettleville Institute, at Douth Castle, for thirty-five years. After being carefully educated by his father, he learned the printer's trade in the office of the Drogheda "Argus," and followed it for several years in various English cities. At the beginning of the revolutionary movement in 1863, he returned to Ireland, and enlisted in the 10th Hussars for the purpose of spreading disaffection among the soldiers. On June 27, 1869, he was arrested, tried for high treason, found guilty on five charges, and was sentenced to be shot, but the sentence was commuted to twenty years' penal servitude. He spent a year in the prisons in Chatham, Portsmouth, Portland, and

Dartmoor; was sent with 340 other convicts to the penal colony in Western Australia, in November, 1867, and reached his destination Jan. 10, 1868. He immediately began planning an escape, but did not succeed till Feb. 18, 1869, and nine months afterward landed in Philadelphia, penniless and friendless. From Philadelphia he came to New York city, where he began writing for the press and lecturing. In 1870 he secured employment on the Boston "Pilot," and in 1874 became part owner and editor-in-chief of that paper, with which he was connected until his death. He founded the Papyrus Club of Boston, and became president of it. He was the poet at the dedication of the Pilgrim Monument at Plymouth, Aug. 1, 1889. His publications include: "Songs of Southern Seas" (1873); "Songs, Legends, and Ballads" (1878); "Moodyne" (1879); "Statues in the Block" (1881); "In Bohemia" (1886); "The Country with a Roof"; and "The Evolution of Straight Weapons."

Osgood, Charles, painter, born in Salem, Mass., Feb. 25, 1809; died there, Dec. 26, 1890. He received a public-school education, spent one year as a bank clerk, and began studying painting when seventeen years old. In 1827 he removed to Boston, soon afterward to New York city, and within a few years returned to his native city, where he passed the remainder of his life. He attained high rank as a portrait painter, and many of his works are in the libraries of the historical societies in Boston, Worcester, and Cambridge, and the Peabody Institute, Essex Institute, and the City Hall in Salem.

Owen, Richard, scientist, born near New Lanark, Scotland, Jan. 6, 1810; died in New Harmony, Ind., March 24, 1890. He was a son of Robert Owen, the Scotch philanthropist, and a brother of Robert Dale Owen, the scholar and statesman, and David Dale Owen, the geologist. He received a scientific education in his native country, making a special study of chemistry and geology, and, on coming to the United States, in 1828, settled in New Harmony, Ind., and began teaching. Shortly afterward he engaged in business in Cincinnati, then returned to New Harmony and conducted a stock farm till the beginning of the Mexican War. He served during the war as a captain in the 16th United States Infantry, and after its close was associated with his brother David in the geological survey of Minnesota, himself exploring the north shore of Lake Superior in 1849. The same year he was appointed Professor of Natural Sciences in the Western Military Institute of Kentucky, and held the office till 1858, when the institute had become the University of Nashville. On leaving the university he made a geological survey of Indiana as assistant State geologist. At the beginning of the civil war he became lieutenant-colonel of the 15th Indiana Volunteers, and he afterward raised the 60th Regiment and was commissioned its colonel. He was made a prisoner of war at Mumfordsville, and after a brief imprisonment served with Gen. Sherman and with Gen. Banks in the Red River expedition. In 1864 he resigned, from failing health, and the same year was appointed Professor of Natural Sciences in the University of Indiana, where he remained till 1879. He afterward made important researches in meteorology and terrestrial magnetism, and published valuable papers on those and allied subjects. He was a member of many scientific organizations; received the degree of M. D. from Nashville Medical College in 1858, and that of LL. D. from Wabash College in 1871. He died from drinking embalming fluid by mistake for mineral water.

Paine, William H., civil engineer, born in Chester, N. H., May 27, 1828; died in Cleveland, Ohio, Dec. 31, 1890. He received an academical education, studied civil engineering, became a land surveyor in northern Wisconsin, introduced new methods of engineering in the mining regions of California during the gold excitement, and in 1849 surveyed a wagon road across the Rocky mountains. In 1853 he surveyed a route for a railroad across the Sierra Nevada mountains from Sacramento to Utah, and he was after-

ward engaged in surveying in Wisconsin till the beginning of the civil war. He accepted an appointment of captain of engineers on the staff of Gen. McDowell; was afterward promoted colonel, and served till the close of the war on the general staff of the Army of the Potomac, performing valuable duty in making topographical surveys and maps. After the war he resumed his profession. In 1869 he was chosen one of the engineers of the East River Bridge; assisted John A. Roebling in the preliminary surveys, superintended the construction, placing, and sinking of the caissons; had charge of the building of the tower on the New York city side and the laying of the superstructure, and designed the system of cable traction that moves the cars across the bridge. After the prostration of Washington A. Roebling, Col. Paine had the active supervision of the entire work. On the completion of his work on the bridge he built cable roads in New York city, Denver, Omaha, and Kansas City, drew the plans for the proposed cable road in Third Avenue, New York, was consulting engineer on the great Port Huron Tunnel, and at the time of his death had just completed the cable road in Cleveland. He was deeply versed in botany, chemistry, and geology, had a passion for mathematics, and was familiar with choice literature.

Pallen, Montrose Anderson, surgeon, born in Vicksburg, Miss., Jan. 2, 1836; died in New York city, Oct. 1, 1890. He was graduated at the St. Louis University in 1853, and at its medical school in 1856, spent two years in study in London, Paris, and Berlin, and practiced in St. Louis till 1874. He was a medical director in the Confederate army in 1861-'63, medical commissioner to Canada to report on the condition of the Confederate prisoners on Johnson's Island; in 1863, commissioner to Paris to obtain medical and surgical supplies for the Confederate army in 1864, and was a prisoner of war in New York city at the time of Gen. Lee's surrender. After the war he returned to St. Louis, and was Professor of Gynecology in Humboldt's Medical College in 1866-'67; Adjunct Professor of Obstetrics in St. Louis Medical College in 1867-'68; Professor of Gynecology in St. Louis College of Physicians and Surgeons in 1869-'70; and Professor of Anatomy in Missouri Medical College in 1870-'72. In 1874 he was appointed Professor of Gynecology in the University of the City of New York, and he held the office till his death. He was one of the founders of the New York Post-Graduate Medical College, Surgeon to the Charity Hospital, and, as an intimate friend of Sir Morell Mackenzie, was one of the consulting surgeons in the case of the late Emperor Frederick III of Germany.

Palmer, Peter S., lawyer, born in Hampton, Washington County, N. Y., Sept. 20, 1814; died in Plattsburg, N. Y., Aug. 15, 1890. He removed to Plattsburg at an early age, was elected clerk of the village and admitted to the bar in 1836, spent several years in Macomb County, Mich., where he became judge of the Court of Probate, and, returning to Plattsburg, was president of the village for several years and county judge and surrogate of Clinton County from 1863 till 1868. He had been engaged since in private practice, and applied his leisure to historical research and writing. Among his valuable contributions to historical literature was a "History of Lake Champlain from 1609 to 1814."

Parker, Amasa Junius, lawyer, born in Sharon, Conn., June 2, 1807; died in Albany, N. Y., May 13, 1890. He passed the full-course examination in Union College in 1825, became principal of an academy in Hudson, N. Y., studied law and was admitted to the bar in 1828. In 1833 he was elected to the State Assembly as a Democrat, and in 1835 was elected a regent of the State University, being the youngest person ever chosen to that office. He was a member of Congress from 1837 till 1839, district attorney of Delaware County from 1840 till 1844, circuit judge and Vice-Chancellor of the 3d Judicial Circuit from 1844 till 1847, and a judge of the New York Supreme Court from 1847 till 1855, when he was defeated for

re-election. He was defeated as Democratic candidate for Governor of the State in 1856 and 1858, and declined the office of United States District Attorney for the Southern District of New York in 1859. In 1864 he was a delegate to the Chicago Convention, and in 1867 to the State Constitutional Convention. He was an active "peace" Democrat during the civil war. He was a founder of the Albany Law School, and one of its professors for twenty years; a trustee of Cornell University and Union College; custodian of the Harmanus Bleecker legacy, which formed the nucleus of the Public Hall fund of the Young Men's Association of Albany; and President of the Board of Trustees of Albany Medical College. He received the degree of LL. D. from Hobart College. Judge Parker was among the foremost advocates of the abolition of the Court of Chancery, and of various reforms in judicial procedure. Among the important cases in which he was engaged were those involving the right to tax national banks, and the title to the Trinity Church property in New York city, the Levy will case, the controversy between the Delaware and Hudson Canal and the Pennsylvania Coal Companies, and the boundary-line question between the States of New York and New Jersey. He published six volumes of law reports (Albany, 1855-'69).

Paynter, John Henry, lawyer, born in New York city, in 1838; died in Laurel, Del., June 21, 1890. He was graduated at Newark Academy and at Union College in 1858, was admitted to the bar in Sussex County, Del., in 1861, and was appointed soon afterward Deputy Attorney-General of the State. In 1866 he was elected a member of the State Senate as a Democrat; in 1869 was appointed Attorney-General, but soon resigned on account of ineligibility because as a State Senator he had voted to increase the salary of that officer; in 1871 was appointed Secretary of State and held the office four years. In 1885 he was again appointed Attorney-General; and in March, 1887, he resigned to accept the office of Associate Justice of the Supreme Court of Delaware, which he held until his death. He was also editor of the "Delaware Democrat" of Georgetown from 1881 till 1887.

Peixotto, Benjamin Franklin, lawyer, born in New York city, Nov. 13, 1834; died there, Sept. 17, 1890. He received his early education in the public schools of his native city, removed to Cleveland, Ohio, on the death of his father, in 1847, studied law, and was admitted to the bar. He practiced his profession and wrote political articles for the Cleveland "Plaindealer" till 1866. During his residence in Cleveland he became Grand Sacerd or Master of the Independent Order of B'nai B'rith, and was instrumental in securing the erection of the Hebrew Orphan Asylum. He returned to New York city in 1866 for a few months, and in 1867 removed to San Francisco to practice. In 1870 President Grant appointed him United States consul at Bucharest, Roumania. The civilized world had just been aroused to indignation by the reports of a massacre of Jews in Roumania, and of the subsequent persecution of that people there, and a wide interest was excited as to how a Jewish representative of the United States would be received in that country. Mr. Peixotto hastened to his post, was received with marks of unusual consideration, and during the five years he held the office was able to accomplish much toward ameliorating the condition of the Jews in the Balkan states. He returned to the United States in 1876, was offered in 1877 the office of United States consul-general at St. Petersburg, which he declined, and then accepted the office of United States Consul at Lyons, France, and held it till 1885, when he returned to New York city and resumed practice.

Pepper, George Beckel, philanthropist, born in Philadelphia, Pa., June 11, 1808; died there, May 2, 1890. He was graduated at Princeton; was admitted to the bar in 1830, but never practiced, and spent his life in managing a vast estate left by his father. He was connected with the principal financial institutions of Philadelphia, and had been President of the American Academy of Music, President of the Rittenhouse

Club, President of the Pennsylvania Academy of Fine Arts, and a director of the Investment Company and of the United Security and Trust Company. His fortune amounted to several million dollars. He bequeathed a total of \$854,000 to relatives and personal friends, and the remainder of his estate to local charitable and educational institutions. His public bequests were as follow: \$150,000 to the trustees of a public library to be established in Philadelphia, east of Schuylkill river and south of Market Street; \$60,000 to the University of Pennsylvania for the endowment of a professorship; \$50,000 to the Pennsylvania Academy of Fine Arts; \$50,000 to the Hospital of the University of Pennsylvania; \$50,000 to the Presbyterian Hospital; \$50,000 to the Hospital of the Protestant Episcopal Church; \$50,000 to Pennsylvania Hospital; \$50,000 to the Hospital of Jefferson Medical University; \$25,000 to the Charity Hospital; \$25,000 to St. Joseph's Hospital; \$25,000 to the Children's Hospital; \$25,000 to St. Christopher's Hospital for Children; \$25,000 to the Maternity Hospital; \$25,000 to the Academy of Natural Sciences; \$25,000 to the Franklin Institute; \$25,000 to the Rittenhouse Club for a library; \$20,000 to the Pennsylvania Museum and School of Industrial Arts; \$15,000 to the Zoological Society; \$10,000 to the Hospital and Dispensary of St. Clement's Church; \$10,000 to the country branch of the Children's Hospital; \$10,000 to the Wills Hospital; \$10,000 to the Young Men's Christian Association; \$10,000 each to the Church Home, Foster Home, Old Men's Home, and Old Women's Home; \$10,000 to the Philadelphia Orphans' Society; \$10,000 each to the Philadelphia, Commercial, and Apprentices' Libraries; \$10,000 to the Philadelphia Club for a library; \$5,000 each to the Art Club, Union League (both for libraries), Northern Dispensary, Southern Dispensary, Philadelphia Dispensary, Howard Dispensary, Christmas Fund for Disabled Clergymen, Southern Home for Destitute Children, seven soup societies, the Societies for the Prevention of Cruelty to Children and to Animals (including the women's branch of the latter), the Day Nursery for Children, the House of Refuge for White Children, Indigent Widows' and Single Women's Society, Union Benevolent Society, Institution for the Instruction of the Blind, Institution for the Education of the Deaf and Dumb, Ladies' Dispensary, Merchants' Fund, and the School of Design; and \$3,000 each to the Mary Coles Home for Young Women, Association for the Alleviation of the Miseries of the Public Prisons, Society for the Employment and Instruction of the Poor, the Temporary Home for Friendless Children, the House of Refuge for Colored Children, the Philadelphia Lying-in and Nurse Society, the Young Men's Home, and the Sailors' Home—a total to be distributed within a year of \$1,084,600. The residue of his estate was bequeathed to trustees, to be divided *pro rata* among the above-named institutions, and to be held by them in trust as endowment funds.

Peters, Christian Henry Frederick, astronomer, born in Coldenbuttel, Schleswig (then a part of Denmark), Sept. 19, 1813; died July 18, 1890. He was educated at the University of Berlin, where, in 1836, he took the degree of Ph. D., and then studied in Copenhagen. In 1838 he accompanied Baron Sartorius von Waltershausen to Sicily, where, until 1843, he was engaged in surveying Mount Etna. The death of Waltershausen brought this work to a close, and Dr. Peters entered the topographical survey of the Sicilies. This work he relinquished to join the revolutionists under Garibaldi, by whom he was made major in the artillery for bravery on the field of battle. When the insurrection was quelled a price was put upon his head, but after numerous hardships he escaped to Turkey, where he devoted himself to astronomy. There he met George P. Marsh, the United States minister, who persuaded him to come to the United States. He settled in Cambridge, Mass., and through the influence of Dr. Benjamin A. Gould was appointed in 1853 to work on the United States

Coast Survey. Subsequently he was transferred to Albany, N. Y., where his irregularities and his attitude toward Dr. Gould in the Dudley Observatory controversy led to his retirement in 1857 from the survey. Through the influence of friends in Albany he was called in 1858 to Hamilton College, as the first director of the Litchfield Observatory in Clinton, N. Y., which place he held until his death, as well as that of Professor of Astronomy, to which he had been called in 1867. His great work was the observation of the zone stars and placing them on charts. At the time of Herschel not over 20,000 stars were registered, and this number was increased to 50,000 by Lalande, while Dr. Peters proved and registered more than 112,000, including stars as minute as the 13th magnitude in his scheme. While examining stars to determine their place he frequently discovered new stars, and the finding of nearly 50 asteroids has been placed to his credit, which is a larger number than any other astronomer can claim. His last discovery was on the night of Aug. 25, 1889, when he found asteroid No. 287, which is probably the nearest one to the sun yet discovered. The largest number of these found by him in a single year (1879) was 8, and a computation of the aggregate surface of 40 of them indicates an area of 266,978 square miles, or about that of the State of Texas. Dr. Peters fixed the locality of the zodiacal stars upon charts, which present an accurate picture of their parts of the sky, and in 1884 20 of these "Celestial Charts" were published by him at his own expense. A second series was completed in 1888, but up to the time of his death was unpublished. For ten years he made a daily observation of solar spots, making a record of nearly 14,000 spots, but these results are still unpublished. This is regarded as his most valuable work, as stellar photography makes possible the star charts upon which he spent so much time. Under the auspices of the regents of the University of the State of New York, he determined the longitude of several places in this State, including the western boundary. He had charge of a party that observed the solar eclipse of Aug. 7, 1869, at Des Moines, Iowa, and was chief of an expedition sent to New Zealand by the United States Government to observe the transit of Venus on Dec. 9, 1874. At that time he secured 237 photographs of the planet and his work then gained this praise: "There is no need of other observations. Dr. Peters has accomplished all that was to be done." The results of his various researches are found in scientific journals, but chiefly in the "Astronomische Nachrichten." He was a member of scientific societies, both in this country and abroad, and in 1876 was elected to the National Academy of Sciences. He attended the International Congress of Astronomers held, under the auspices of the French Academy of Sciences, in Paris during April, 1887, and at that time was made a chevalier of the Legion of Honor by the French Government. He never married, and was a man of extremely simple habits. Among the students at college he was known as "Twinkle," but he was a strict disciplinarian and always insisted that the dignity of his office be respected. His assistant, Charles A. Borst, aided him in the preparation of his "Star Catalogue," and ultimately elinced that work as his own, in which opinion he was sustained by Prof. Simon Newcomb and Asaph Hall, of the United States Naval Observatory.



The case was referred to the courts and shortly before his death a decision was rendered awarding the "Star Catalogue" to Dr. Peters as his property, with interest on its value and six cents damages to carry costs.

Pfaff, Charles Ignatius, caterer, born in Baden, Germany, in 1819; died in New York city, April 25, 1890. He removed to New York in 1855, and opened a restaurant on Broadway, near Amity Street. About 1860 he established himself at No. 653 Broadway, and from that time till 1876 his chop-house was one of the most popular and noted resorts in the city. It was frequented by the actors, artists, authors, musicians, newspaper men, wits, and the men-about-town, who named it "Bohemia," and elected Henry Clapp, Jr., the king, and the gifted Ada Clare the queen. The house was the scene of merry revels at all hours of day and night. Poems were composed; newspaper and magazine articles were suggested and written; plays were projected, completed, and rehearsed; and innumerable plans of literary venture were perfected there. The proprietor moved up-town to Twenty-fourth Street, near Broadway, in 1876, and retired from business about 1887. He survived nearly all the members of the unique "Bohemia."

Phelps, Austin, educator, born in West Brookfield, Mass., Jan. 7, 1820; died in Bar Harbor, Me., Oct. 13, 1890. He was educated at Hobart College, at the University of Pennsylvania, where he was graduated in 1837, and at Andover and Union Theological Seminaries. He was ordained pastor of the Pine Street Congregational Church in Boston in 1842, and resigned in 1848 on being appointed Professor of Sacred Rhetoric in Andover Theological Seminary. In 1869 he was elected president of the seminary, and he held this office and the chair of Sacred Rhetoric till 1879, when he resigned both, and was made professor emeritus. He had been a trustee of Wellesley College, a director of the American Education Society, chaplain of the State Legislature, preacher to the Commonwealth of Massachusetts, and a member of many religious, educational, and charitable societies. He received the degree of D. D. from Amherst College in 1856. His publications include: "The Still Hour" (Boston, 1859); "Hymns and Choirs" (Andover, 1860); "The New Birth" (Boston, 1867); "Sabbath Hours" (1870); "Studies of the Old Testament" (1879); "The Theory of Preaching" (1881); "Men and Books" (1882); "My Portfolio" (1882); "English Style" (1883); "My Study" (1885); and "My Note-Book, or Fragmentary Studies in Theology."

Philleo, Prudence Crandall, abolitionist, born in Hopkinton, N. H., in 1803; died in Elk Falls, Kan., Jan. 28, 1890. She was educated in the Friends' School in Providence, and became a teacher. In 1831 she settled in Canterbury, Conn., and established a boarding-school for girls. She was ably seconded in her efforts to provide a higher grade of instruction for girls and young women than was elsewhere taught, and for two years her school prospered and was recognized as a model institution. In 1833 she created intense excitement by admitting a colored pupil. Immediately the parents of her white pupils protested, and then threatened to withdraw them if the colored girl was not dismissed. Miss



Crandall firmly declined to heed either protests or threats. A consultation with several of the anti-slavery leaders strengthened her determination, and led her to undertake the education of colored children exclusively. In March, 1833, a circular which she had had widely distributed was published in the "Liberator." It announced that on the first

Monday in April she would open her school for the reception of young ladies and little misses of color, and it bore the names of William Lloyd Garrison, Arthur Tappan, Samuel J. May, and Arnold Buffum as her references. This publication produced greater indignation than her reception of the colored pupil. Public meetings were held in which her course was severely denounced, and her friends, particularly Messrs. May and Buffum, were denied an opportunity for presenting her side of the controversy. Miss Crandall opened her school at the promised time, and to the surprise of the towns-people gathered a considerable number of colored pupils. Petitions to the Legislature were then extensively signed throughout the State, and, acting on these, that body passed an act in May prohibiting in the State private schools for non-resident colored persons. But she persisted in keeping her school open despite the law and the local annoyances to which she was subjected, and in consequence she was arrested for violation of the law in August, was tried and acquitted that month, tried again and convicted in October, and secured the reversal on a technicality by the Supreme Court of Errors of the judgment of the lower court in July, 1834. Baffled thus in legal proceedings, the towns-people took the law into their own hands and burned and ransacked her house. She then reluctantly abandoned her cherished purpose. Shortly afterward she married the Rev. Calvin Philles, a Baptist clergyman, and lived quietly in New York, Illinois, and Kansas, where her husband died in 1876. Francis Alexander painted her portrait for the American Anti-Slavery Society in 1838, and Samuel J. May subsequently presented it to Cornell University.

Phillips, Richard Henry, educator, born in Fredericksburg, Va., in 1811; died in Norfolk, Va., April 7, 1890. He was graduated at Yale College, and was ordained to the ministry of the Protestant Episcopal Church. After he had preached a short time his health became too much impaired for an active pastorate, and he applied himself to educational work, first in Maryland, and afterward in Staunton, Va. He was principal of the Virginia Female Institution for thirty-two years, resigning only when stricken with paralysis. Since 1886 he had lived in Norfolk.

Pierson, Henry R., banker, born in Charleston, Montgomery County, N. Y., June 13, 1819; died in Albany, N. Y., Jan. 1, 1890. He spent his early years on a farm, was graduated at Union College in 1846, studied law and was admitted to the bar in 1848. In 1849 he removed to Brooklyn, and he was in active practice there till 1860, when he was elected president of the Brooklyn City Railroad Company. He also served as a member of the Board of Education and as President of the Board of Aldermen, and was elected a State Senator in 1866. In 1869 he went to Chicago as financial agent of the Northwestern Railroad Company, of which he afterward became vice-president. In 1871 he was chosen resident executive director of the New York Central Railroad Company at Albany, in 1875 he established a banking house in that city, and in 1879 was a member of the State Assembly and chairman of its committees on cities and on railroads. He was elected a trustee of Union College, of the Albany Medical College, and of Dudley Observatory in 1870, a regent of the University of the State of New York in 1872, vice-chancellor of the university in 1878, and its chancellor in 1881.

Pollock, James, lawyer, born in Milton, Pa., Sept. 11, 1810; died in Lock Haven, Pa., April 19, 1890. He was graduated at Princeton in 1831, and was elected to Congress on the Democratic ticket, though a Whig in politics, in 1842, 1844, and 1846. While in Congress he was one of the first Representatives to urge legislation for the construction of a railroad to the Pacific coast. In 1850 he was appointed judge of the 8th Judicial District of Pennsylvania, and in 1854 was elected Governor of the State, declining a re-nomination. In May, 1861, he was appointed Director of the United States Mint at Philadelphia, and he held the office till Oct. 1, 1866, when he resigned. Presi-

dent Grant reappointed him director of the mint in 1869, and on the reorganization of the entire mint system in 1873 he became superintendent of his former charge. In 1879 President Hayes appointed him United States Naval Officer at Philadelphia, and he served till July, 1883. His last public office was that of Federal Chief Supervisor of Elections, to which he was appointed in April, 1885. It was he who successfully urged the addition to the national coins of the motto, "In God we trust."

Powers, Horatio Nelson, clergyman, born in Armenia, N. Y., April 30, 1826; died in Piermont, N. Y., Sept. 6, 1890. He was graduated at Union College in 1850, and at the General Theological Seminary of the Episcopal Church in 1855. In the latter year he was ordained deacon in Trinity Church, New York city, and soon afterward was called to be assistant minister at St. James's Church in Lancaster, Pa. In 1857 he married Clemence Gouraud, the daughter of Prof. Gouraud, of the University of France, and removed to Davenport, Iowa, where he became rector of St. Luke's Church. During his residence in Iowa he was for some time the President of Griswold College. In the autumn of 1868 he accepted a call to the rectorship of St. John's Church, Chicago, in which position he remained until 1875. In November of that year he removed to Bridgeport, Conn., to become rector of Christ Church in that city. Ten years later, in October, 1885, he left Bridgeport, and, after officiating for short periods at East Orange, N. J., and Yonkers, N. Y., received at the close of 1886 a call to the Episcopal Church at Sparkill, N. Y., which he accepted. He then removed to the adjoining town of Piermont, and was rector of Sparkill at the time of his death. Dr. Powers had an extended acquaintance among literary men as well as among the clergy of his own Church. He was a man of wide sympathies, and possessed the affection of his friends in no common degree. He was a valued friend of Bryant and Bayard Taylor and of Hamerton, who dedicated his "Unknown River" to Dr. Powers. In spite of many trials, his sunny, cheerful temperament never became embittered, and his outlook upon life was always optimistic. This spirit is exhibited in his poetry to a marked degree. His verse is always thoughtful, often extremely musical, and not seldom helpful and inspiring. His religious sympathies placed him in the ranks of the broad church school of thought in his Church. In 1867 he received from Union College the degree of D. D. He was a member of several learned societies and a fellow of the Clarendon Historical Society of Edinburgh, Scotland. He contributed to a number of periodicals including "The Century," "Lippincott's," "The Dial," and "The Churchman," and was American correspondent of "L'Art." In January of 1890, he went to Europe with his family, and returned much improved in health in August. A month later he died quite suddenly. His published works are: "Through the Year," (1875); "Poems, Early and Late" (1876); "Biography of William Cullen Bryant" and "Ten Years of Song" (1887). His latest writing was a poem entitled "Light at Eventide," which appeared in "The Churchman" a fortnight before his death.

Prindle, Elsur H., lawyer, born in Newton, Conn., May 6, 1829; died in Norwich, N. Y., Oct. 7, 1890. He received an academic education, studied law, and settled in Chenango County, N. Y. He was district attorney of the county from 1860 till 1863, was a member of the State Assembly in 1863, and of the State Constitutional Convention in 1867-'68, and was elected to Congress from the 19th New York District as a Republican in 1870. He served as a member of the Committee on the Territories.

Quackenbush, Stephen Platt, naval officer, born in Albany, N. Y., Jan. 23, 1823; died in Washington, D. C., Feb. 4, 1890. He was appointed a midshipman in the United States navy, Feb. 15, 1840; was promoted passed midshipman, July 11, 1846; master, March 1, 1855; lieutenant, Sept. 14, 1855; lieutenant-commander, July 16, 1862; commander, July 25, 1866;

captain, July 25, 1871; commodore, March 13, 1880; rear-admiral, July 28, 1884; and was retired, Jan. 28, 1885. During his service in the navy he was on sea duty twenty-one years and six months; on shore or other duty, nine years and eight months; and was unemployed eighteen years and seven months. He participated in the operations against Vera Cruz during the Mexican War; served on the frigate "Congress," the "Delaware," and the "Unadilla" in the early part of the civil war; covered Gen. Burnside's army at Acquia Creek and at Roanoke Island; took part in the battles at Elizabeth City and at Newbern, N. C.; fought the Confederate batteries and a regiment of flying infantry at Winton, N. C., and destroyed the town. He lost his right leg by a cannon-shot on James river, at Malvern Hill. Subsequently he captured the "Princess Royal," loaded with materials for a new Confederate ironclad, and while examining the obstructions in Charleston harbor lost his ship by the explosion of a submerged torpedo.

Quimby, Elihu Thayer, educator, born in Danville, Vt., July 17, 1826; died in New York city, Feb. 26, 1890. He was graduated at Dartmouth College in 1851; was appointed principal of Appleton Academy, New Ipswich, and served till 1864; was Professor of Mathematics in Dartmouth College from 1864 till 1878; and was then engaged for many years in the United States Coast and Geodetic Survey and the New Hampshire State Survey. His last important work was the resurvey of the boundary lines between Vermont, New Hampshire, and Massachusetts.

Radford, William, naval officer, born in Fincastle, Va., March 1, 1808; died in Washington, D. C., Jan. 8, 1890. He was appointed a midshipman in the United States navy, March 1, 1825; was promoted passed midshipman, June 4, 1831; lieutenant, Feb. 9, 1837; commander, Sept. 14, 1855; captain, July 16, 1862; commodore, July 24, 1863; rear-admiral, July 25, 1866; and was retired, March 1, 1870. During his service in the navy he was on sea duty sixteen years and one month; on shore or other duty, twelve years and ten months; and was unemployed thirty-five years and eleven months. During the Mexican War he commanded the party that cut out the "Malokadel," a Mexican war vessel, at Mazatlan. At the time of the attack by the Confederate ram "Merri-mac" on the national squadron in Hampton Roads he was in command of the sloop-of-war "Cumberland," but was on court-martial duty at Old Point. He attempted to reach his ship while the fight was in progress, and arrived at Newport News just in time to see her sink. He commanded the frigate "New Ironsides" and the ironclad division of Admiral Porter's squadron in the two attacks on Fort Fisher, 1864 and 1865; was commandant of the Washington Navy Yard in 1866-'68; and commanded the European squadron in 1869, after which he was on duty in Washington.

Rambaut, Thomas, clergyman, born in Dublin, Ireland, Aug. 25, 1819; died in Hamilton, N. Y., Oct. 15, 1890. He was of Huguenot parentage; received a preparatory education in the Portarlange Huguenot Academy; and studied four years in Trinity College, Dublin. He settled in Savannah, Ga., in 1840, and there began studying law. In 1842 he was appointed principal of Beach Island Academy, S. C., in 1843 he became pastor of the Robertsville Baptist Church, S. C., in 1848 he was called to the Baptist Church in Savannah, and in 1854 he labored with such zeal among the yellow-fever sufferers that the municipal authorities voted him a long and much needed vacation at the public expense. Resuming work in 1856, he was elected Professor of Ancient Languages in Cherokee Baptist College, Cassville, Ga., and was president of the college from 1857 till 1863, when the war closed it. He then became Professor of History and Roman Literature in Georgia State Military Institute, and when, a year later, the war caused the closing of this institution also he was appointed general agent of the Baptist Home Missionary Society, and as such preached in nearly every Southern State till 1867. In that year he was elected President of

William Jewell College, Liberty, Mo., for which he labored with large success for five years, and then spent nearly two years abroad in studying the systems of the European universities, under the authority of the trustees of William Jewell College and the State government. On his return, in 1874, he was unable to resume his college duties, on account of failing health, and he returned to pastoral work. He was pastor of the Tabernacle Baptist Church, Brooklyn, N. Y. in 1874-'78; of the First Baptist Church, Newark, N. J., in 1878-'82; of the First Baptist Church, Albany, N. Y., in 1882-'84; and after a short pastorate in Franklin, Pa., settled in Brooklyn in 1887. In 1888 he was the general delegate of the Baptist Church in the United States to the World's Missionary Convention in London, and afterward he made his permanent home in Hamilton, N. Y. He was one of the most scholarly and eloquent preachers in the Baptist Church, and a successful educator. Dr. Rambaut received the degrees of A. M. from Mercer University, Georgia; LL. D. from Madison University; and D. D. from William Jewell College.

Reeve, Isaac Van Dusen, military officer, born near Utica, N. Y., July 29, 1813; died in New York city, Dec. 31, 1890. He was graduated at the United States Military Academy and appointed brevet 2d lieutenant in the 4th Infantry, July 1, 1835; promoted 2d lieutenant, May 2, 1836; 1st lieutenant in the 8th Infantry, July 7, 1838; captain, June 18, 1846; major of the 1st Infantry, May 14, 1861; lieutenant-colonel of the 13th Infantry, Sept. 16, 1862; colonel, Oct. 14, 1864; brevetted major for meritorious conduct at Contreras and Churubusco, Aug. 20, 1847; lieutenant-colonel for Molino del Rey, Sept. 8, 1847; and brigadier-general for services in the civil war, March 18, 1865; and was retired Jan. 1, 1871. Gen. Reeve served in the campaigns against the Seminole Indians in Florida in 1836-'42, in the military occupation of Texas in 1845, through the Mexican War, in Indian campaigns, through the civil war as commander of the District of Upper Missouri in 1865-'68, and as superintendent of recruiting in New York city till his retirement.

Rice, Samuel J., lawyer, born in South Carolina in 1816; died in Montgomery, Ala., Jan. 3, 1890. He removed to Alabama in 1838, published and edited a newspaper in Talladega for six years, was a Taylor and Fillmore presidential elector in 1848, and, removing to Montgomery, was elected Chief Justice of the Supreme Court of Alabama in 1852, and held the office for four years. He was considered one of the ablest advocates in the South.

Riddleberger, Harrison Holt, lawyer, born in Edenburg, Shenandoah County, Va., Oct. 14, 1844; died in Winchester, Va., Jan. 24, 1890. He received a limited education. He raised a company for the Confederate service, and entered the army as a 2d lieutenant in March, 1862. He served in the Richmond, Maryland, and Pennsylvania campaigns, was promoted captain of cavalry, and at the time of Gen. Lee's surrender had been a prisoner of war for nine months. After the war he became editor of "The Tenth Legion Banner" in Edenburg. He was elected to the Virginia House of Delegates in 1871 and 1873. He studied law in Woodstock, and was admitted to the bar in 1875; was soon afterward elected Commonwealth attorney for Shenandoah County, and was re-elected in 1878; was elected a State Senator in 1879; was a presidential elector on the Democratic ticket in 1876, and on the Readjuster ticket in 1880. He became editor of the Woodstock "Virginian," a Republican newspaper, in 1881, and in the same year he was elected United States Senator as a Readjuster. As State Senator he was chairman of the committee on Federal relations and a member of the committee on courts of justice; and as United States Senator he was chairman of the committee on manufactures and member of the committees on the District of Columbia, naval affairs, Potomac river front, and on education and labor. The public service of which he was most proud was in the contest in the United States Senate that led to the rejection of the proposed extra-

dition treaty with Great Britain. For his uncompromising opposition to that measure, he received resolutions of thanks from nearly all the Irish societies in the United States.

Rhodes, John N., naval officer, born in New Haven, Conn., in 1848; died in Algiers, La., July 16, 1890. He was educated in Gen. Russell's military school, New Haven, and after graduation went to sea. In 1873 he received an appointment in the United States Revenue Marine Service, where he won a wide reputation as a life-saver. On Jan. 18, 1884, the coasting steamer "City of Columbus" was wrecked off Gay Head light on Martha's Vineyard, and Mr. Rhodes, then a 2d lieutenant, attached to the United States revenue cutter "Dexter," commanded one of the two boats sent from the cutter to rescue the passengers, and picked up 12 persons under exceedingly perilous circumstances. For his gallant conduct he received the thanks of Congress and of the Secretary of the Treasury, and was promoted 1st lieutenant, and advanced 21 numbers by the President. He had since served chiefly along the coast of Alaska, where he had made himself the terror of opium smugglers.

Rolison, John W., telegrapher, born in Port Jervis, N. Y., in 1859; died in Brooklyn, N. Y., May 22, 1890. When thirteen years old he removed to New York city, studied telegraphy, and secured employment in the commercial news department of the Western Union Telegraph Company. Subsequently he was manager of the Bankers' and Merchants' and Postal offices in the Stock Exchange, and night manager of the Postal Telegraph Company, and had also worked for the French Cable Company and the United and Associated Press. In 1884 he made the world's record for fast sending by telegraph, 600 words in ten minutes and ten seconds; in 1885 he took the first prize in the telegraphing tournament in New York city; and shortly before his death he was popularly believed to have shown himself the fastest sender in the last tournament, though he was ruled out by the judges. He was a governor of the New York Telegraph Club and a fine electrician, and met his death through a bicycle accident.

Roome, Charles, engineer, born in New York city, Aug. 4, 1812; died there, June 28, 1890. He received a common-school education, and entered the service of the Manhattan Gas Light Company, as assistant engineer, in 1837. In 1842 he was promoted engineer-in-chief, in 1855 was elected president of the company, and, on the consolidation of the various gas companies in the city, was elected president of the new company, and held the office till 1888, when he resigned. In early life he became a member of the 7th Regiment, N. G. S. N. Y., and at the beginning of the civil war he raised, equipped, and commanded the 37th Regiment, New York Volunteers, and he was afterward commissioned a brigadier-general. He was known throughout the United States by reason of his long service as a Free Mason. He was especially influential in promoting the completion of the Masonic Temple in New York city, and was the author of many Masonic writings.

Ropes, Ripley, financier, born in Salem, Mass., in September, 1820; died in Brooklyn, N. Y., May 18, 1890. He came to New York city when a boy, learned commercial and shipping business, and was engaged successfully in the South American trade for about twenty-five years. He was a Republican, and held many offices, among them those of alderman, supervisor of the 1st ward, commissioner of public works under Mayor Seth Low, and member for King's County in the New York State Board of Charities for fifteen years. He was President of the Brooklyn Trust Company for seventeen years, director of the Union Ferry Company for many years, director of the Brooklyn National Bank, and chairman of the auditing committee of the Brooklyn Association for improving the Condition of the Poor. Mr. Ropes was largely instrumental in securing for King's County the St. Johnland county farm to relieve the institutions at Flatbush, and in developing the cottage system.

Rowan, Stephen Clegg, naval officer, born near Dublin, Ireland, Dec. 25, 1808; died in Washington, D. C., March 31, 1890. He came to the United States when a boy, was appointed a midshipman in the United States



navy Feb. 1, 1826; was promoted passed midshipman April 28, 1832; lieutenant, March 8, 1837; commander, Sept. 14, 1855; captain, July 16, 1862; commodore, July 16, 1862; rear-admiral, July 25, 1866; vice admiral, Aug. 15, 1870; and was retired at his own request Feb. 26, 1883. During his service in the navy he was on sea duty twenty-five years; on

shore or other duty, twenty-nine years and ten months; and was unemployed ten years. As passed midshipman he cruised on the "Vandalia" off the western coast of Florida during the Seminole War, and as lieutenant was on coast-survey duty in 1838-'40, subsequently serving in the Brazilian and Pacific squadrons. In the Mexican War he took part in the capture of Monterey and San Diego as executive officer of the "Cyane," as well as in the bombardment of Guaymas by that vessel; commanded the naval battalion under Com. Stockton at the battle of the Nimes, Upper California, and the landing party that made the successful night attack on the Mexican outpost near Mazatlan, and was highly commended for his services. He was on ordnance duty 1850-'53, and again in 1858-'61, commanding the storeship "Relief" in the mean time; and at the beginning of the civil war was in command of the sloop-of-war "Pawnee." With this vessel he covered the city of Alexandria, after its occupation by the national troops in May, 1861, and on May 25 following he engaged with his vessel the Confederate battery on Aquia Creek, the first naval action of the war. He also, with the "Pawnee," took part in the capture of the forts and garrison at Hatteras Inlet, and destroyed Fort Ocracoke, 20 miles south of Hatteras. In January, 1862, he led the vessels of the Goldsborough expedition to North Carolina, and on Feb. 8 took part in the successful attack of the army and navy on Roanoke Island. Two days afterward, with a portion of his flotilla and in his flagship the "Delaware," he pursued the Confederate flotilla into Albemarle Sound, and, after coming within three fourths of a mile of the enemy's vessels and their supporting earthworks, he suddenly opened fire, dashed ahead at full speed, and captured or destroyed the Confederate works and the entire fleet. This was the first naval movement of the kind in the war. He immediately followed up the advantage thus gained, passed up Pasquotank river, took possession of Elizabeth City and Edenton, destroyed several armed vessels, and captured one steamer, and then returned to obstruct the Chesapeake and Albemarle Canal. He co-operated with Gen. Burnside in the expedition to Newbern, N. C., forced the surrender of the forts there, and by the capture of Fort Macon restored the national authority in the waters of North Carolina. His next command was the "New Ironsides," off Charleston, in which he took part in the engagements with Forts Wagner, Gregg, and Moultrie. In 1866 he received a vote of thanks from Congress and was promoted rear-admiral. He commanded the Norfolk Navy Yard in 1866-'67, the Asiatic squadron in 1868-'69, and the Brooklyn Navy Yard in 1872-'76; was admiral of the port of New York in 1877-'78, President of the Board of Naval Examiners in 1879-'81, governor of the Naval Asylum

in Philadelphia in 1881, superintendent of the United States Naval Observatory in 1882, and chairman of the United States Lighthouse Board from 1883 till his retirement in 1889.

Sabin, Chauncey B., lawyer, born in Otsego County, N. Y., in 1824; died in Galveston, Texas, March 29, 1890. He was admitted to the bar in 1847, and soon afterward settled in Houston, Texas. As he had strong Union principles, he removed to the north in 1863, and remained there till the close of the civil war. On his return to Texas in 1865 he was appointed judge of the 3d Judicial District by Maj.-Gen. Griffin, commanding the Department of Texas. In 1871 he removed to Galveston, in 1872 became judge of the Galveston district, in 1873 was elected to the State Legislature, in 1874 was appointed postmaster of Galveston, and held the office till 1880. In 1884 was appointed United States district judge.

St. John, Daniel Bennett, financier, born in Sharon Conn., Oct. 8, 1808; died in New York city, Feb. 18, 1890. At an early age he was employed by his uncle, Hiram Bennett, in his mercantile and real-estate establishment in Monticello, Sullivan County, N. Y. In 1831 he succeeded to the business, and in 1856 retired with a large fortune. He began his political career in 1840, when he was elected to the State Assembly as a Henry Clay Whig. He was a Representative in Congress as a Democrat in 1847-'49, register of the State Bank Department in 1849-'51, and the first superintendent of the New York Banking Department in 1851-'55. He then removed to Newburg, New York, where he passed the remainder of his life. He was a delegate to the National Union Convention at Baltimore in 1860; was the same year defeated for Congress as the Democratic nominee; was defeated by Chauncey M. Depew, for Secretary of State of New York in 1863; was elected a State Senator in 1875; and was a delegate to the National Democratic Convention at St. Louis in 1876. He was President of the Newburg Savings Bank for many years. Mr. St. John bequeathed \$10,000 to St. Luke's Home and Hospital at Newburg; \$5,000 to the Newburg Home for the Friendless; \$5,000 to the Domestic and Foreign Missionary Society of the Protestant Episcopal Church; \$10,000 to the Post-Graduate and Medical School and Hospital of New York city; \$5,000 to the Trustees of the Fund for Aged and Infirm Protestant Episcopal Clergymen, Diocese of New York; \$5,000 St. John's Church at Monticello, N. Y.; and \$5,000 to the archdiocese of Orange, N. J.

Balt, William F., clergyman, born in Brooklyn, N. Y., in 1837; died in South Orange, N. J., Oct. 7, 1890. He was educated for the ministry of the Protestant Episcopal Church, and was ordained a deacon in the diocese of Central New York. In 1867 he was received into the Roman Catholic Church, and, after studying at Seton Hall College, N. J., and at the American College in Rome, Italy, was ordained a priest in 1871. On his return to the United States he was appointed rector of the seminary at Seton Hall and Professor of Ecclesiastical History and Political Economy, and held these offices till his death. In 1885 he was appointed by Bishop Wigger vicar-general of the diocese of Newark, N. J.

Sands, Elizabeth, centenarian, born in Darlington, Harford County, Md., March 7, 1789; died in Baltimore, Md., Aug. 3, 1890. She was a daughter of Judge Breese, of Utica, N. Y., and Catherine Livingstone; was a sister of Chief-Justice Sidney Breese, of Illinois, and a cousin of Samuel Finley Breese Morse. In 1805 she married Peter Smick, who died in 1824, and afterward married John Sands, who died in 1829. In 1812, while her first husband was serving in the army, she nursed the American soldiers who were wounded in the battle of North Point, and for her patriotic devotion at that time was afterward elected an honorary member of the Old Defenders' Association. She survived all the members of that association, and on her one hundredth birthday was given a semi-public reception, and received presents and congratulations from many distinguished persons.

Sargent, Johnathan Everett, jurist, born in New London, N. H., Oct. 16, 1816; died in Concord, N. H., Jan. 6, 1890. He was graduated at Dartmouth College in 1836, admitted to the bar in 1842, and elected President of the State Senate in 1854. In 1855 he was appointed a judge, and he served continuously till 1874, holding the office of Chief Justice of the Supreme Court of New Hampshire during the last year of his service. Judge Sargent was Speaker of the State House of Representatives in 1878, and had been Vice-President and President of the New Hampshire Historical Society, President of the New Hampshire Centennial Home for the Aged, and President of the Loan and Trust Savings Bank, and a director of the National State Capital Bank and of other financial corporations. He received the degree of LL. D. from Dartmouth College in 1849.

Sommon, Jonathan Young, lawyer, born in Whitefield, Lincoln County, Me., July 27, 1812; died in Chicago, Ill., March 17, 1890. He was graduated at Waterville College; studied law and was admitted to

the bar in Hallowell, Me.; and removed to Chicago in September, 1835, when the city contained but 2,000 inhabitants. Professionally he met with large success for that period, and prepared for publication a revised edition of the statutes of Illinois, and, as reporter of the Supreme Court of the State, published four volumes of reports (1843). He took an active interest in all movements designed to promote the growth and prosperity of the city, and after

a few years became so engrossed in such measures that he was obliged to abandon his law practice. He was one of the founders of the great railroad system that united Chicago with the East and West; of the public-school system of Chicago; of the Marine Bank, the first institution of its kind in the city; of the Chicago Fire Insurance Company; of the "Tribune" and "Evening Journal" newspapers; and of the Mechanics' National Bank. He was an early abolitionist, an active Republican, and the founder of the "American" newspaper, a Henry Clay organ, in 1842, the "Inter-Ocean" newspaper in 1873, the first Swedenborgian Church in Chicago, the Hahnemann Hospital, and the Dearborn Observatory of the University of Chicago. He retired from business with a large fortune in 1857, but the great fire in 1871 and the financial panic of 1873 swept away most of it. He held several public offices, and was delegate to the Republican National Conventions in 1864 and 1872. Waterville College, Me. (now Colby University) conferred upon him the degree of LL. D. in 1869.

Schenck, Robert Cumming, diplomatist, born in Franklin, Warren County, Ohio, Oct. 7, 1809; died in Washington, D. C., March 23, 1890. He was graduated at Miami University in 1827, remained there for three years as tutor in French and Latin, studied law, and was admitted to the bar in 1831. Settling in Dayton, Ohio, he soon acquired a large practice, and entered political life as a Whig. In 1838 he was defeated as a candidate for the Legislature, in 1840 stumped the State for William Henry Harrison, in 1841 was elected to the Legislature, and in 1842 was re-elected to the Legislature and also elected to Congress. In Congress he rendered conspicuous service both on the floor and in several committees to which he was appointed. He was re-elected three times, serving from 1843 till 1851, and during 1847-'49 he was chairman of the Committee on Roads and Canals, and had the opportunity for carrying out some of the plans he had formed for the internal improvement of several commercial sections in the Western States. In 1850 he declined a renomination for Congress, and

in 1851 was appointed United States minister to Brazil. During his two years' residence in South America he negotiated commercial treaties with the states bordering La Plata river, personally visiting Buenos Ayres, Montevideo, and the Uruguay, Paraguary, and Parana river regions. Returning to the United States in 1853, he resumed professional practice and was engaged in the management of the Fort Wayne Railroad till the beginning of the civil war. When the first call for volunteers was made, he offered his services to Gov. Dennison, and was appointed a brigadier-general of State militia. On reaching the field he was placed in command of all the Ohio troops in eastern Virginia, and had his first encounter with the Confederates at Vienna, June 17, 1861. He was ordered to dislodge the enemy there, and, advancing by railroad, was drawn into an artillery ambushade. His command left the cars and retreated till he met re-enforcements, when he returned and effected his purpose. During the retreat of the army from Bull Run, July 21, 1861, he did much to protect the rear. Soon afterward he was transferred to western Virginia, where he aided Gen. Rosecrans in driving the Confederates from that department. In the spring of 1862 he succeeded the late Gen. Lander in command at Cumberland, Md.; on June 8, he commanded the right of Gen. Frémont's army in the Battle of Cross Keys; and during the interval between Gen. Frémont's relief and Gen. Sigel's assumption of the command of the 1st Corps of the Army of Virginia Gen. Schenck was its commander. On Aug. 30, 1862, he was wounded in the second Battle of Bull Run and had to retire from the field, and on Sept. 18 he was promoted major-general United States Volunteers, his commission dating from Aug. 30. While on disability leave he was again elected to Congress as a Republican, where he was appointed chairman of the Committee on Military Affairs, and, resigning his commission in the army, was re-elected to Congress in 1864, 1866, and 1868, and defeated in 1870. During his last term in Congress he directed important financial legislation as Chairman of the Committee on Ways and Means. In 1870 he was appointed United States minister to England, but before departing he served by appointment as a member of the High Joint Commission, which resulted in the Treaty of Washington, the Geneva arbitration, and the settlement of the "Alabama" controversy. While he was in England a charge was preferred against him of complicity in the celebrated Emma mine fraud. His name had been used as a stockholder and director of the company, and it was asserted that English capitalists had lost money through investments in the mine that were made on the strength of his alleged connection with it. He resigned the office and returned in March, 1876, to appear before a committee of the House of Representatives. The committee reported that there was nothing "in the evidence to show that Gen. Schenck knew or suspected that any fraud was intended or about to be perpetrated upon the public, or that his official position was to be used to insure the successful perpetration of a fraud." And Judge Wallace, of the United States circuit court, in charging the jury in the judicial investigation in New York city, said that "whatever else may appear from the testimony, it is clear that no part of it can be held in the slightest degree to throw a shadow on the integrity of Gen. Schenck." After the investigations he was tendered a renomination for Congress from his old district, but declined it.



Schuyler, Eugene, diplomat, born in Ithaca, N. Y., Feb. 26, 1840; died in Cairo, Egypt, July 18, 1890. He was graduated at Yale College in 1859 and at the Law School of Columbia College in 1863, and was engaged in practice till 1866. He was United States consul at Moscow in 1866-'69, and at Revel, on the Gulf of Finland, in 1869-'70; secretary of the United States legation at St. Petersburg in 1870-'73; consul-general at Constantinople, 1876-'78; consul at Birmingham, England, in 1878-'79; consul-general at Rome, Italy, 1879-'80; *chargé d'affaires* and consul-general at Bucharest in 1880-'82; minister-resident and consul-general to Greece, Servia, and Roumania in 1882-'84; and consul-general at Cairo from 1889 till his death. He made a remarkable tour through Turkestan, Khokan, and Bokhara, officially investigated the Turkish massacres in Bulgaria, and was authorized to conclude and sign the commercial treaties with Servia and Roumania. On his return to the United States in 1884, he engaged in literary work, and published numerous magazine articles, edited several translations, and wrote "Peter the Great, Emperor of Russia" (2 vols., 1884). Other notable publications were "Turkestan: Notes of a Journey in Russian Turkestan, Khokand, Bokhara, and Kuldja," and "American Diplomacy and the Futherance of Commerce." President Harrison nominated him for Assistant Secretary of State, March 13, 1889, but the nomination was withdrawn for political reasons.

Schuyler, George Lee, yachtsman, born in Rhinebeck, N. Y., June 9, 1811; died off New London, Conn., July 31, 1890. He was educated at Columbia College, became interested with John C. and Edwin A. Stevens, the Astors, and other capitalists in the original transportation movements by land and water about New York city, and aided in developing the water traffic of Hudson rivers and Long Island sound, besides several railroad systems. But he was most widely known because of his promotion of yachting interests. He was a founder of the New York Yacht Club in 1844, and remained a member till his death. In 1851, in association with John C. Stevens, Edwin A. Stevens, Hamilton Wilkes, and J. Beckman Finley, he bought an elegant silver trophy cup, which was offered as a prize for a contest between a yacht of the New York Club and one of the Royal Yacht Club of Great Britain, and was a part owner of the schooner-yacht "America" that won the cup that year. After this race the owners of the "America's" cup, presented it to the New York Yacht Club, to be held forever by that club, subject to the challenge of any organized yacht club of any foreign country. After defending it in several remarkable contests, the club still holds the cup. He was referee in the contest between the English "Thistle" and the American "Volunteer" in 1857. He was found dead in the cabin of the flagship "Electra" during the annual cruise of the Yacht Club. Mr. Schuyler published "Correspondence and Remarks upon Bancroft's History of the Northern Campaign in 1777," and "The Character of Maj.-Gen. Philip Schuyler."

Scotti, John, inventor, born in Philadelphia, Pa., in 1819; died in Baltimore, Md., Nov. 2, 1890. He removed to Baltimore when a child, learned the machinist's trade in the machine shops of the Baltimore and Ohio Railroad Company, and remained in the service of the company till 1886, when it retired him. He was one of the oldest locomotive engineers in the country, the inventor of the locomotive cab and the locomotive copper-wire joint, and the first engineer to blow the locomotive steam whistle in 1838. Mr. Scotti also gave valuable aid to Prof. Morse in the erection and operation of the trial telegraph line, and distributed for him all the apparatus used in that work.

Shaw, Benjamin Franklin, inventor, born in Monmouth, Me., in 1832; died in Lowell, Mass., Dec. 11, 1890. From 1853 till 1865 he was engaged in literary work in Philadelphia. He then sought restoration of health in the cattle business in Leavenworth, Kan., and, after removing to Lowell, invented and made the first loom for the manufacture of seamless stockings

in 1869. In 1879 he organized an American company to manufacture such stockings; in 1880 organized a similar one, and built a factory in Leicester, England; and in the latter year invented a woven-hose machine. He had a large estate on the Ossipee range in New Hampshire, and because of his costly improvements there the people named Shaw mountain for him.

Shaw, James Boylan, clergyman, born in New York city, Aug. 25, 1808; died in Rochester, N. Y., May 8, 1890. He was prepared for Yale College, but did not enter, began studying medicine, and soon afterward abandoned it for law, which he studied with Thomas Addis Emmet. But as he was about being admitted to the bar he determined to fit himself for the ministry. He was licensed to preach in 1832, and was ordained by the Presbytery of Genesee, and installed pastor of the church in Utica, N. Y., in 1834. On Feb. 16, 1841, he was installed pastor of the Brick Church in Rochester, N. Y., and served as such with great success for more than forty years, when he was made pastor emeritus. He was a member of the General Assembly in 1837, and of the famous joint committee on the reunion of the two branches of the Presbyterian Church; was moderator of the General Assembly in 1863, and was again a member of it in 1883. In 1852 he received the degree of S. T. D. from the University of Rochester, in 1862 he was elected a corporate member of the American Board of Commissioners for Foreign Missions, in 1873 he was chairman of the first committee sent by the Presbyterian Church of the United States to the Established Church of Scotland; and at various times he was a trustee of Genesee and Hamilton colleges and of Auburn Theological Seminary. Dr. Shaw had the highest personal qualities of a pastor, and was held in affectionate esteem far beyond the limits of his own denomination.

Sherwood, James Manning, clergyman, born in Fishkill, N. Y., Sept. 29, 1814; died in Brooklyn, N. Y., Oct. 22, 1890. He was brought up on a farm, was educated by private tutors, studied theology, and was ordained pastor of the Presbyterian Church at New Windsor, N. Y., in 1835. He held this charge till 1840; was made pastor at Mendon in 1840-'45, and at Bloomfield, N. J., in 1852-'58; and then removed to New York city and engaged in religious journalism. He was for more than forty years a voluminous writer as editor of the "National Preacher" and "Biblical Repository," (New York, 1846-'51); "Eclectic Magazine" (1864-'71); "Hours at Home" (1865-'69); "Presbyterian Review" (1863-'71); "Presbyterian Quarterly and Princeton Review" (1877-'78); and the "Homiletic Review" (from 1863 till his death). He published "Plea for the Old Foundations" (New York, 1856), "The Lamb in the Midst of the Throne, or, the History of the Cross" (1883), and "Books and Authors, and how to use them," (1886); and edited the "Memoirs" and "Sermons" of Ichabod Spencer, D. D. (1885), and Brainerd's "Memoirs" with notes (1884).

Shillaber, Benjamin Penhallow, author, born in Portsmouth, N. H., July 12, 1814; died in Chelsea, Mass., Nov. 25, 1890. He was educated at Exeter Academy, learned the printer's trade in Dover, N. H., followed it in Boston for five years, and in Demerara, Guiana, for three, and in 1840 returned to Boston and became connected editorially with the "Post." About 1847 he began writing a series of humorous articles concerning the sayings and doings of Mrs. Partington, and subsequently he portrayed the fancies and tribulations of her nephew, Ike Partington. The sound and philosophic thought, the purity of intent, and the wholesome, elevating tone that underlay his quaint and witty expressions gave the "Partington" papers wide fame. In 1850 he left the Boston "Post," and, with Charles G. Halpine ("Miles O'Reilly"), edited "The Carpet-Bag," a humorous publication, which at the close of two years "survived all the means for its support." He then resumed his place on the "Post" till 1856, when he became editor of the "Saturday Evening Gazette," with which he remained ten years. In 1866 he retired to his home in Chelsea,

and passed the remainder of his life in literary work, occasionally lecturing. His publications include:



"Rhymes with Reasons and without" (Boston, 1853); "Life and Sayings of Mrs. Partington" (1854); "Knitting-Work" (1857); "Partingtonian Patch-work" (1873); "Lines in Pleasant Places" (1875); "Ike and his Friends" (1879); "Cruises with Captain Bob" (1881); "The Double-runner Club" (1882); and "Wideswathe" (1884). He is believed to have left an autobiography for publication.

Sholes, Christopher Latham, journalist, born in New York, Feb. 14, 1819; died in Milwaukee, Wis., Feb. 17, 1899. In 1837 he removed to Green Bay, Wis., then the principal town in the State, and established the "Democrat" newspaper. While publishing this he received the contract to print the proceedings of the first Legislature of Wisconsin, and, for want of adequate facilities in the West, took the manuscript to Philadelphia and lived there till the work was finished. From Green Bay he removed to Milwaukee, where he was editor of the "Sentinel" for many years. He was active in State and national politics, and during his long career held the offices of member of the State Assembly, State Senator, postmaster at Kenosha and Milwaukee, collector of customs at Milwaukee, and member of its board of public works. He will be particularly remembered as the inventor of the first successful type-writing machine.

Sickel, Horatio Gates, military officer, born in Bucks County, Pa., April 3, 1817; died in Philadelphia, Pa., April 15, 1890. He was educated in the Friends' School at Byberry, learned the smithing trade, established himself at Quakertown, and was successfully engaged in manufacturing and mercantile business in Philadelphia from 1845 till the outbreak of the civil war. In 1861 he was elected colonel of the 3d Pennsylvania Reserve Regiment, and at once went to the front. He took part in two of the battles that preceded the Seven Days' engagements, and when Gen. Meade was disabled he was given command of the brigade till it reached Aquia Creek, on its way to re-enforce Gen. Pope. He also participated in the second Battle of Bull Run. For gallantry at Fredericksburg he was made commander of the Reserves on the promotion of Gen. Meade, and placed in charge of the defense of Alexandria, in February, 1863. In April, 1864, he was ordered to the command of a brigade in West Virginia, and on May 9 captured Cloyd mountain, an apparently impregnable position. A few days afterward he defeated the Confederates under Gen. McCausland at New River Bridge. He was mustered out of the service on the expiration of his term, June 17, 1864, and, again tendering his services to Gov. Curtin, was appointed colonel of the 198th Regiment. For gallantry at Peeble's farm he was promoted brigadier-general, and for distinguished service at Hatcher's Run and Lewis's farm, or Quaker Road, he was brevetted major-general. He afterward was Health Officer of Philadelphia, Collector of Internal Revenue for the 4th District, and United States Pension Agent at Philadelphia.

Sitting Bull (Indian name, Tatanka Yotanka), medicine man of the Sioux Indians, born near old Fort George, on Willow Creek, Dakota, in 1837; died near Grand River, forty miles from Standing Rock Agency, North Dakota, Dec. 15, 1890. His father was Jumping Bull, and two of his uncles were Four Horns and Hunting-His-Lodge, all chiefs of the tribe. He was first known as The Sacred Stand, and when ten years old killed his first buffalo calf. When fourteen years old he slew and scalped his first enemy, for which his

name was changed to Sitting Bull. After reaching manhood he became the leader of the unruly bucks in the tribe, showed a hostility toward the whites that was unconquered to the last, and fermented so much discord that he and his band were repudiated by such leaders as Red Cloud, Spotted Tail, and Young-Man-Afraid-of-His-Horses, till about 1868. He raided white settlements and small Indian reservations alike, and was a general terror in every neighborhood in which he was placed. In the early part of the civil war his band engaged in a massacre of whites at Spirit Lake, Iowa, and in Minnesota; in 1864 Gen. Sully drove them into the Big Horn country and to the Yellowstone, where Fort Buford was established; in 1866 Sitting Bull made a show of treating with the Government, accepted presents and some ammunition, and then suddenly broke up the council; in 1867 he threatened Gallatin valley, in Montana; and in 1868 he was defeated in an attack on Musselsell. From 1869 till 1876 he was almost continually on the war-path, fighting the Crows, Mandans, Shoshones, and other Indians friendly to the whites, and raiding Montana settlements. It was because of the failure of Sitting Bull's band to return to its reservation that Gen. Sheridan organized the fatal campaign of 1876, in which Gen. Custer and his little force perished in the surprise and massacre on the Little Big Horn. As soon as intelligence of the bloody work reached Gen. Terry, who commanded the main column, that officer set out in pursuit of Sitting Bull, but the band made its escape into Canada. He remained across the border till 1879, when, weary of precarious existence, and with naught but starvation or surrender before him, he chose the latter alternative on receiving a pledge of amnesty from Gen. Miles. In 1885 he was influential in preventing the Indians from selling their land to the Government. When the Messiah craze broke out among the Indians in the early winter of 1890 (see INDIAN MESSIAH), he so increased the excitement that the military authorities determined to arrest him. On Dec. 15 the arrest was attempted with the aid of the loyal Indian police. Sitting Bull was captured in his camp, but a moment afterward some of his men answered his cries for assistance, and a fight ensued, in which he, his son, and five other Sioux, and seven of the Indian police, were killed.

Smith, Francis H., educator, born in Norfolk, Va., Oct. 18, 1812; died in Lexington, Va., March 21, 1890. He was graduated at the United States Military Academy in 1833, and immediately afterward was commissioned a 2d lieutenant of artillery and assigned to duty at New London, Conn. Subsequently he became Assistant Professor of Ethics at the United States Military Academy. In 1837 he was chosen Professor of Mathematics at Hampden-Sidney College in Virginia, and two years later was appointed Superintendent of the Virginia Military Institute, with the rank of major. He organized that school, and before the close of the year had a large corps of cadets fully accoutred and under military discipline. He held the office of superintendent from his appointment in July, 1839, till his resignation on Jan. 1, 1890.

Smith, Henry H., physician, born in Philadelphia, Pa., Dec. 10, 1815; died there, April 11, 1890. He was graduated in medicine at the University of Pennsylvania in 1837; spent two years in studying the hospital systems of London, Paris, and Vienna, and on his return in 1841 became a private tutor in surgery. At the beginning of the civil war he was appointed Surgeon-General of Pennsylvania, and was charged with the organization of its hospital service. In this he succeeded so well that after the first battle of Winchester, Va., he was able to move a large number of wounded soldiers from the battle-field to hospitals in Philadelphia, Harrisburg, Reading, and other cities. He established the custom of embalming the dead on the battle-field; organized and directed a corps of surgeons, with steamers as floating hospitals, at the siege of Yorktown; and rendered efficient service to the wounded after the battles of Williamsburg, West Point, Fair Oaks, Cold Harbor, and An-

tietam. In 1882 he resigned his commission. Among his numerous medical and surgical publications are: "Anatomical Atlas to Minor Surgery," "System of Operative Surgery," and "Practice of Surgery."

Snead, Thomas Lowndes, lawyer, born in Henrico County, Va., Jan. 10, 1828; died in New York city, Oct. 17, 1890. He was graduated at Richmond College in 1846, and at the University of Virginia in 1848, studied law, removed to St. Louis, Mo., in 1850, was editor and proprietor of the St. Louis "Bulletin" in 1860-'61, and at the outbreak of the civil war entered the Confederate service as aide-de-camp to Gen. Claiborne F. Jackson and as adjutant-general of the Missouri State Guard. He took part in the battles of Booneville, Carthage, Wilson's Creek, and Lexington; was Missouri commissioner in the military convention with the Confederate States in October, 1861; and served through the greater part of the war under Gen. Price in the Southwest. He was elected a Representative from Missouri in the Confederate Congress in May, 1864. In 1865 he removed to New York city, in 1866 was admitted to the bar, and for several years was an editor on the "Daily News" staff.

Solomon, Margaret, last of the Wyandotte Indians, born on the reservation on Sandusky river, in 1816; died near Upper Sandusky, Ohio, Aug. 18, 1890. She was a full-blooded Wyandotte, daughter of John Gray Eyes, a noted chief. In 1821, when the Rev. Mr. Finley opened a mission school on the reservation, she was the first Indian girl taken to him to be educated. When the remnant of her tribe were moved farther west, in 1843, she accompanied her people, and afterward married John Solomon. On his death she returned to the Sandusky river.

Spicer, Robert Milton, lawyer, born in Cassville, Huntingdon County, Pa., Sept. 8, 1838; died in New York city, Jan. 17, 1890. He was educated in Cassville Seminary, was admitted to the bar in 1859, and removed to Huntingdon to practice. In 1863 he was chosen assistant clerk in the Pennsylvania House of Representatives, in 1870 and 1872 was elected to Congress from the 17th Pennsylvania District as a Democrat, and in 1872 and 1880 was a delegate to the Democratic national conventions. In Congress he was a member of the committees on elections, invalid pensions, and expenditures in the Department of Justice.

Spinner, Francis Elias, ex-Treasurer of the United States, born in German Flats (now Mohawk), N. Y., Jan. 21, 1802; died in Jacksonville, Fla., Dec. 31, 1890. He was the son of a clergyman, who educated him with a view of having him follow a mechanical trade, and first apprenticed him to a confectioner in Albany, N. Y., and afterward to a harness maker in Amsterdam, N. Y. In 1822 he established himself in mercantile business in Herkimer, N. Y.; in 1829 was appointed deputy sheriff of Herkimer County; in 1834 was elected sheriff and appointed major-general of the 3d Division of New York State Artillery; in 1838 was a commissioner for building the State Lunatic Asylum at Utica; and in 1839 became cashier of the Mohawk Valley Bank, which he served as cashier and president for twenty years. He was auditor and deputy naval officer of the port of New York from 1845 till 1849, and was elected to Congress as an anti-slavery Democrat in 1854, serving on the Committee on Privileges and Elections, and on the special committee to investigate Preston S. Brooks's assault on Charles Sumner. By re-elections as a Republican he remained in Congress till March 3, 1861, his last committee service being as chairman of the Committee on Accounts. On March 16, 1861, on the recommendation of Secretary Chase, he was appointed Treasurer of the United States, and he held the office till June 30, 1875, when he resigned, and passed the remainder of his life near Jacksonville, Fla. He suggested, and successfully urged against much opposition, the employment of women in the Treasury Department. When, on resigning, his accounts were specially examined at his request, an apparent shortage of one cent was discovered. He claimed an even balance, and a re-examination proved that he was right.

Starkweather, John Converse, lawyer, born in Cooperstown, N. Y., in May, 1830; died in Washington, D. C., Nov. 15, 1890. He was graduated at Union College in 1850, was admitted to the bar in 1857, and removing to Milwaukee, practiced with success till the beginning of the civil war. He volunteered his services on the first call for troops, and was commissioned colonel of the First Wisconsin Volunteers, in May, 1861. With his regiment he took part in the battles of Falling Waters, July 2, and Edward's Ferry, July 29. When his regiment was mustered out of the three months' service, he re-enlisted and was ordered to Kentucky for duty. He distinguished himself at the Battle of Perryville, Ky., Oct. 8, 1862, and at Stone River, Dec. 31, 1862, and Jan. 1 and 2, 1863; was promoted brigadier-general; was stationed at Murfreesborough, Tenn., July, 1863; and in September he participated in the Battle of Chickamauga, in November in the battles around Chattanooga, and afterward in the capture of Atlanta. Gen. Starkweather was a member of the court-martial that tried Surgeon-General William A. Hammond. He subsequently served in Alabama and Tennessee till mustered out of the service in 1865. He then resumed the practice of law in Milwaukee, but soon removed to Washington, where he practiced till his death.

Steedman, Charles, naval officer, born in St. James's Parish, Santee, S. C., 1811; died in Washington, D. C., Nov. 13, 1890. He was appointed a midshipman in the United States navy April 1, 1828; was promoted passed midshipman, June 14, 1834; lieutenant, Feb. 25, 1841; commander, Sept. 14, 1855; captain, Dec. 13, 1862; commodore, July 25, 1866; and rear-admiral, May 26, 1871; and was retired Sept. 24, 1873. During this naval career he was on sea service twenty-four years and one month, on shore or other duty fourteen years and four months, and was unemployed twenty-four years. During the Mexican War he served on board the "St. Marys," at the bombardment of Vera Cruz he commanded the eight-inch gun battery, and at Tampico he led an attempt to surprise and capture the Mexican gunboats within the bar. In 1859-'60 he commanded the "Dolphin" in the Paraguay expedition; and at the beginning of the civil war was placed in command of the Baltimore Railroad Company's steamboat "Maryland," with which he kept communication open between Baltimore and Philadelphia. He commanded the "Bienville" at the Battle of Port Royal, S. C., Nov. 7, 1861, and the gunboats that engaged Fort McAllister, on the Ogeechee river, in August, 1862; silenced the batteries of St. John's Bluff, St. John's river, Fla., Sept. 17; and co-operated with the land force in capturing the batteries on the 30th, and opened and held St. John's river as far as Lake Beaufort. As commander of the "Ticonderoga" he took part in the attacks on Fort Fisher in December, 1864, and January, 1865, besides contributing to the successful operations at the mouth of Cape Fear river. His last active services were as commandant of the Boston Navy Yard in 1869-'72, and of the South Pacific squadron from October, 1872 till his retirement.

Stevens, Ezra Lincoln, journalist, born in Grafton County, N. H., Dec. 30, 1817; died in Ashbury Park, N. J., March 6, 1890. He was graduated at Oberlin College in 1843, and began studying law, but soon abandoned it for journalism, and founded the Cleveland "True Democrat" (now the "Leader"). In 1847 he went to Washington, D. C., as correspondent of the Boston "Whig," the New York "Tribune," his own, and other newspapers, and in 1853 was appointed a clerk in the Department of the Interior, and was subsequently transferred to the Bureau of Indian Affairs. With two intermissions, of about two years in all, he remained in the Indian office till Aug. 31, 1887, when he resigned. He was successively chief of the finance, civilization, and schools divisions of the bureau, and for five years was chief clerk of the bureau. He maintained an active connection with journalism, and was an authority on Indian affairs, and a promoter of the present Indian school system.

Stokes, James Hughes, military officer, born in Baltimore, Md., in 1814; died in New York city, Dec. 27, 1890. He was graduated at the United States Military Academy in 1835, served in the Seminole War in Florida, and after its close resigned his commission. From 1845 till 1858 he was engaged in manufacturing and in railroad business. At the beginning of the civil war he volunteered his services to the Governor of Illinois; received a captain's commission, served a year in Tennessee, was then appointed an assistant adjutant-general, and on July 20, 1865, was promoted brigadier-general. After the war he was engaged in business in Chicago till 1880, and then in New York.

Strawbridge, James D., physician, born in Montour County, Pa., in 1824; died in Danville, Pa., July 19, 1890. He received an academic education, was graduated at Princeton in 1844, and in medicine at the University of Pennsylvania in 1847, and settled in Danville. At the beginning of the civil war he entered the national army as brigade surgeon of volunteers. He was captured while acting as medical director of the 18th Army Corps before Richmond, and was confined for three months in Libby Prison. He served till the close of the war, and then resumed practice in Danville till 1872, when he was elected to Congress as a Republican from the 13th Pennsylvania District. He served as a member of the committees on invalid pensions and on reform in the civil service.

Stuart, George Hay, philanthropist, born in Rose Hill, County Down, Ireland, April 2, 1816; died in Philadelphia, Pa., April 11, 1890. He was educated at Banbridge, Ireland, removed to Philadelphia in 1831, engaged in business there, and became President of the Mechanics' National Bank, and, in 1850, of the Merchants' National Bank, which was organized for him, and from which he retired in May, 1888. In 1842 he was ordained a ruling elder in the First Reformed Presbyterian Church in Philadelphia, which was built principally through his munificence, and of whose Sunday-school he was superintendent for more than twenty-five years. For many years he was Treasurer of the Theological Seminary of the Reformed Presbyterian Church, and of the Board of Foreign Missions of that denomination. He was the first President of the Young Men's Christian Association of Philadelphia, president of three international conventions of the Young Men's Christian Association, president of the Philadelphia branch of the United States Evangelical Alliance, President of the United States Christian Commission during the civil war, and President of the Presbyterian National Convention in Philadelphia in 1867, at which the two "schools" of the Church were united. He established the Missionary Refuge at Landour, northern India, and was a liberal promoter of the Saharanpur Mission. He was also chairman of the first executive committee of the Board of Indian Commissioners appointed by President Grant, vice-president and manager of the American Sunday-School Union, and an active official in the American Bible and the American Tract Societies. In 1868 he was suspended from his office of ruling elder by the synod of his denomination for participating in the devotions of other evangelical Christians, but half of the presbyteries refused to approve the act.

Sturtevant, Benjamin Franklin, inventor, born in Norridgewock, Me., Jan. 18, 1838; died in Boston, Mass., April 17, 1890. His inventions include the blowers and exhausting fans that bear his name, a shoe-pegging machine, the machinery for manufacturing ribbon peg-wood, the first machine to make wooden tooth-picks, and a projectile that was used with effect in the siege of Charleston, S. C., during the civil war. He was the prohibition candidate for Lieutenant-Governor of Massachusetts in 1880. Mr. Sturtevant gave to philanthropic enterprises an aggregate of \$250,000, built and presented Sturtevant Hall to Newton Theological Institute, of which he was a trustee, and aided liberally Vermont Academy and Colby University, of both of which he was also a trustee.

Taulbee, William Preston, lawyer, born in Morgan County, Ky., Oct. 22, 1851; died in Washington, D. C., March 11, 1890. He studied for the ministry in 1875-'78, and for the law in 1878-'81; was elected clerk of the Magoffin County Court in 1878 and 1882; and was admitted to the bar in 1881. In 1884 and 1886 he was elected to Congress from the 10th Kentucky District as a Democrat. While in Congress he served as chairman of the committee on real-estate purchases by district commissioners, and as member of the committees on invalid pensions, alcoholic liquor traffic, claims, and Territories. He declined a second renomination for Congress, and engaged in the real-estate business in Washington. Two weeks before his death he was shot in the Capitol building by Charles E. Kincaid, Washington correspondent of the "Louisville Times."

Taylor, John Orville, educator, born in Charlton, Saratoga County, N. Y., in 1808; died in New Brunswick, N. J., Jan. 18, 1890. He was graduated at Union College, and, after studying theology a short time in Princeton Seminary, settled in Philadelphia, and began teaching and writing and lecturing in the cause of educational reform. His first publication, "The Public School; or Popular Education" (1835), attracted wide attention in the United States and Great Britain. In 1837 he induced the Legislature of New York to pass an act for the establishment of public-school and district libraries; and in 1838, on the invitation of Congress, he lectured in the Hall of Representatives on the need for educational reform. He wrote and lectured on his favorite topic for fifteen years, was for some years Professor of Popular Education in the University of the City of New York, and, after engaging unsuccessfully in mercantile business, retired to New Brunswick, N. J., in 1879, and spent the remainder of his life in literary work. He conducted for many years "The Common School Assistant," and published a translation of Cousin's "Report of the Prussian School System."

Thomas, Philip Francis, lawyer, born in Easton, Talbot County, Md., Sept. 12, 1810; died in Baltimore, Md., Oct. 2, 1890. He was educated at Dickinson College, studied law and was admitted to the bar in 1831, and began his political career in 1836, when he was elected to the State Constitutional Convention. In 1838 he was elected to the Legislature; in 1839-'41 was a Representative in Congress; subsequently was judge of the Land Office Court of the Eastern Shore of Maryland; in 1843 and 1845 was elected to the State House of Delegates; and in 1847 was elected Governor of the State. At the close of his three years' term he was elected first Comptroller of the State Treasury. Early in 1860 he was appointed Commissioner of the United States Patent Office, and on the resignation of Howell Cobb as Secretary of the Treasury in December following, the President induced him to accept that office. He resigned it in January, 1861. In 1866 he was again elected to the Legislature, and by it was chosen United States Senator, but was excluded from the seat on the ground of disloyalty.

Thompson, John, lawyer, born in Rhinebeck, N. Y., July 4, 1809; died in New Hamburg, N. Y., June 1, 1890. He was educated in Union and Yale Colleges, was admitted to the bar in 1830, and practiced in his native county till within a few years of his death. In 1856 he consented to the use of his name as candidate for Congress, and on his election he was appointed a member of the Committee on Roads and Canals, and was active in the legislation concerning the admission of Kansas and Nebraska into the Union.

Thornburgh, Jacob M., lawyer, born in Newmarket, Tenn., July 3, 1837; died in Knoxville, Tenn., Sept. 19, 1890. He was educated at Holston College, Newmarket, was admitted to the bar in 1861, entered the national army as a private in May, 1862, became colonel of the 4th Tennessee Cavalry in June, 1863, and served with Generals Morgan, Rosecrans, Sherman, Thomas, and Canby till the close of the war. He then resumed practice in Jefferson County, Tenn., and in 1867 removed to Knoxville. Soon afterward

he was appointed by Gov. Brownlow attorney-general for the Third Judicial District of Tennessee, and was elected to the office in 1869 and 1870. In 1872, 1874, and 1876 he was elected to Congress from the 2d Tennessee District as a Republican, and served on the Committees on Military Affairs and on Elections.

Trask, Eliphalet, banker, born in Monson, Mass., Jan. 8, 1806; died in Springfield, Mass., Dec. 9, 1890. He removed to Boston in 1834, and established himself in the foundry business, subsequently becoming President of the Hampden Savings Bank, director in the First National Bank of Springfield, and director in the Mutual Fire Insurance Company. He was a founder of St. Paul's Universalist Church, and an active Free Mason and Odd Fellow. He began his political career as a Federalist, and was afterward conspicuous as a Whig, Know-Nothing, Republican, and Prohibitionist. He held office as selectman of the old town, alderman of the city in 1852-'54, mayor in 1854, member of the Legislature in 1856, 1857, and 1862, and Lieutenant-Governor of the State with Gen. Banks in 1855, 1859, and 1860. While mayor he effectually suppressed the liquor traffic.

Tresch, John P. J., artist, born in New York city, April 15, 1862; died there, March 14, 1890. He was deaf and dumb from birth, was educated in a private school for deaf mutes in New York city, and in the Roman Catholic Institution for the Deaf and Dumb in Montreal, Canada, and begun his art studies while in the latter institution. He returned to New York when seventeen years old, studied painting for four years, and finished the course with Prof. Corelio in 1884. He then established a studio on upper Broadway and engaged in portrait painting, and during his two last years gave much attention to illustrating periodicals. He was an artist of much promise.

Tucker, Nathaniel Beverley, journalist, born in Winchester, Va., June 8, 1820; died in Richmond, Va., July 4, 1890. He was educated at the University of Virginia; founded the "Sentinel" in Washington, D. C., in 1853, and edited it for three years; was elected printer to the United States Senate in 1853; and was United States consul at Liverpool from 1857 till 1861. Returning to the United States after the beginning of the civil war, he entered the service of the Confederacy, and was sent on special missions to England and France in 1862, and to Canada in 1863. From 1865 till 1868 he resided in Mexico city, and since 1870 he had lived in Washington, D. C., and Berkeley Springs, W. Va.

Tuckerman, Samuel Parkman, musical composer, born in Boston, Mass., Feb. 11, 1819; died in Newport, R. I., June 30, 1890. He studied music, became organist and director of the choir in St. Paul's Church, Boston, in 1840, went to England for further study in 1849, and received the diploma of the Academy of St. Cecilia, Rome, in 1852, and the degree of Mus. Doc. at the hands of the Archbishop of Canterbury in 1853. He then resumed his offices in St. Paul's Church, and lectured on sacred music and gave performance of church music till 1856, when he returned to England and remained four years. A third visit to England lasted from 1868 till 1879. Dr. Tuckerman collected a large and rare musical library, and published: "The Episcopal Harp" (1844); "The National Lyre," jointly with Silas A. Bancroft and Henry K. Oliver (1848); "Cathedral Chants" (London, 1852); and "Trinity Collection of Church Music" (1864). Separate pieces of note are the festival anthem, "I was glad"; the cantata "I looked, and behold a Door was opened in Heaven"; and the anthems, "Hear my Prayer" and "Blow ye the Trumpet."

Vallejo, Manuel Gonzales, military officer, born in Monterey, Cal., in 1809; died in Sonoma, Cal., Jan. 18, 1890. He entered the Mexican army in early life, was identified with public events during the Mexican occupation of California, was at one time military governor of the Territory, and after it became an American State was a member of its first Constitutional Convention. He was considered the oldest living native of California for many years.

Van Buren, Daniel Tompkins, military officer, born in Kingston, N. Y., in 1824; died in Plainfield, N. J., July 17, 1890. He was graduated at the United States Military Academy in 1847, entered the army as 2d lieutenant in the 2d Artillery, served through the Mexican War, was promoted 1st lieutenant Feb. 14, 1849, was assistant Professor of Natural and Experimental Philosophy at the United States Military Academy in 1849-'50, and was on coast-survey duty from Dec. 2, 1852, till 1856, when he resigned. He then studied law, was admitted to the bar, and practiced law and civil engineering in his native city. At the beginning of the civil war he re-entered the army, was chief of staff to Gen. John A. Dix while that officer commanded the Department of Pennsylvania, Middle Department, at Baltimore, 7th Army Corps, at Fort Monroe, and the Department of the East, and assistant adjutant-general on the staff of Gen. Joseph Hooker from July 16, 1865, till Feb. 9, 1866. He was brevetted brigadier-general United States Volunteers March 13, 1865, and was mustered out of the service March 20, 1866. After the war he settled in Plainfield, N. J., and engaged in surveying and civil engineering.

Vinton, Frederick, librarian, born in Boston, Mass., Oct. 9, 1817; died in Princeton, N. J., Jan. 1, 1890. He was graduated at Amherst College in 1837, studied theology at Andover and New Haven, and became first assistant in the Boston Public Library in 1856. He arranged the 30,000 volumes presented to the library by Joshua Bates, and assisted in preparing the "Index to the Catalogue of Books in Bates Hall" (1861), and the first supplement to it (1866). From 1865 till 1873 he was first assistant in the Congressional Library, and compiled six annual supplements to the "Alphabetical Catalogue of the Library of Congress" and an "Index of Subjects" (2 vols., Washington, 1869). In 1873 he was appointed librarian of the College of New Jersey, and he held the office till his death, publishing a "Subject Catalogue" of the library (New York, 1884) and three "Bulletin List" supplements.

Walker, James Peter, Congressman, born in Lauderdale County, Tenn., March 14, 1851; died in Dexter, Mo., July 19, 1890. He removed to Missouri in 1867, was elected to Congress from the 14th Missouri District as a Democrat in 1886 and 1888, and served on the committees on levees and improvements of the Mississippi river, invalid pensions, expenditures on public buildings, commerce, and on expenditures in the Post Office Department.

Wallace, George D., military officer, born in South Carolina, June 29, 1849; died at Porcupine Creek, South Dakota, Dec. 28, 1890. He was graduated at the United States Military Academy and appointed 2d lieutenant in the 7th United States Cavalry June 14, 1872; was promoted 1st lieutenant June 25, 1876, and captain Sept. 23, 1885; and was adjutant of his regiment from June, 1876, till June, 1877. At the time of the Custer massacre, in 1876, he was attached to Reno's command. When Reno sought cover, the adjutant of the regiment fell from his horse mortally wounded. In the face of a terrible fire from the Indians, Wallace threw himself from his horse, grasped the body of the adjutant, remounted, and carried the officer more than a mile toward a place of safety before he was compelled to abandon his burden. At the time of Wallace's death, Col. Forsythe was disarming Big Foot's band of Indians, who had approached the Pine Ridge agency under an agreement to surrender. While the disarming was in progress, the Indians suddenly began firing, and Capt. Wallace and several privates were shot dead. The young officer had shown rare courage on several occasions, and was highly esteemed in army circles.

Walton, Edward Payson, journalist, born in Montpelier, Vt., Feb. 17, 1812; died there, Dec. 19, 1890. He studied law, but soon relinquished it for journalism, and, after learning the printer's trade, became editor of the "Vermont Watchman." After serving one year in the State House of Representatives, he

was elected to Congress in 1856, and was re-elected in 1858 and 1860, becoming chairman of the committee on printing and a member of the committee on claims. In 1864 he was a delegate to the Baltimore Convention. He was owner and editor of the "Vermont Watchman" and the "State Gazette" from 1853 till 1868; was latterly editor of Walton's "Vermont Register" and the "Collections" of the Vermont Historical Society, and was President of the Vermont Editors' Association from its organization till 1881.

Watkins, William Brown, clergyman, born in Bridgeport, Ohio, May 2, 1834; died at Rideview Park Camp-meeting grounds, forty miles east of Pittsburg, Pa., Aug. 15, 1890. He received a public-school education and studied law in Wheeling, Va., but entered the ministry of the Methodist Episcopal Church in the Pittsburg Conference in 1856. He was presiding elder at Steubenville, Ohio, in 1868-'72, was stationed in Pittsburg in 1872-'81, and was a delegate to the General Conference of the Methodist Episcopal Church in 1888. His last services were rendered as pastor in New Brighton, Pa., and as secretary of the Pittsburg Conference. Mount Union College, of Ohio, conferred the degree of D. D. on him in 1868. Dr. Watkins was widely known as a lecturer on philological and educational subjects, was principal proof-reader on Webster's new "Dictionary," was a reader on the Philological Society's historical dictionary, publishing in London, was author of several school books, and had in preparation an "Etymological Dictionary of American Geographical Names."

Watson, John Whitaker, author, born in New York city, Oct. 14, 1824; died there, July 19, 1890. He received a university education and took a course of medical study, but afterward engaged in literary work. He had contributed frequently to "Harper's Weekly" and "Harper's Magazine," and had been an editorial writer on the New York "Times." His writings include nearly fifty serial stories and many popular poems, among the latter "The Dying Soldier" and "Patter of Little Feet." The story of "Thirty Millions" was dramatized under the name of "The World." Mr. Watson claimed to be the author of the poem, "Beautiful Snow," and placed it first in a collection of his poems published in 1869, his claim being that he had first published it in "Harper's Weekly," in November, 1858. Though he produced evidence to support his claim, it was disputed by Richard H. Chandler, William A. Stillway, H. H. Sigourney, John Mcmasters, Dora Shaw, Dora Thorne, and Henry W. Faxon, each of whom claimed the authorship and detailed the circumstances under which the poem was alleged to have been written.

Watson, Lewis F., merchant, born in Crawford County, Pa., April 14, 1819; died in Washington, D. C., Aug. 25, 1890. He was educated in Warren, Pa., Academy, engaged in mercantile business, and retiring therefrom with a large fortune in 1860, became an extensive operator in lumber and in the production of petroleum. In 1861 he organized and was elected first President of the Conewango Valley Railroad (now known as the Dunkirk, Alleghany Valley, and Pittsburg Railroad) Company, in 1870 was an incorporator of the Warren Savings Bank, of which he was president from its organization till his death, and, in 1876, 1880, and 1888, was elected to Congress from the 27th Pennsylvania District as a Republican. He served on the committees on expenditures in the Post-Office Department, on naval affairs, and on public lands.

Webster, Augustus, clergyman, born in Baltimore, Md., in 1806; died there, Oct. 26, 1890. He entered the ministry of the Methodist Episcopal Church in 1832, became pastor of St. John's Independent Methodist Church in Baltimore in 1848, and was made pastor emeritus in 1880. He was author of theological works, and a mathematician of much ability.

Welch, Ransom Bethune, theologian, born in Greenville, N. Y., about 1825; died in Healing Springs, Va., June 29, 1890. He was graduated at Union College in 1846, and at Auburn Theological Seminary

in 1852; arranged a system of colportage in Mississippi for the American Tract Society in 1853-'54; was pastor of the Reformed Dutch Church in Gilboa, N. Y., in 1854-'56; and of one in Catskill, N. Y., in 1856-'59; and was appointed Professor of Logic, Rhetoric, and English Literature in Union College in 1860. He held this office till 1876, when he became Professor of Christian Theology in Auburn Theological Seminary, where he remained until his death. Dr. Welch was a delegate to the Presbyterian Alliance at Belfast, Ireland, in 1884, and at London in 1888, and to the Centennial Conference of Foreign Missions in London the latter year; became an associate editor of the "Presbyterian Review" in 1881; and was chosen Vice-President of the American Institute of Christian Philosophy in 1886. He received the degree of D. D. from the University of the City of New York in 1868, and that of LL. D. from Maryville College, Tenn., in 1872.

White, George Bartol, naval officer, born in Pennsylvania, March 27, 1839; died in Washington, D. C., Feb. 27, 1890. He was appointed an acting midshipman in the United States navy Sept. 28, 1854; was promoted midshipman June 11, 1858; passed midshipman, Jan. 19, 1861; master, Feb. 23, 1861; lieutenant, April 19, 1861; lieutenant-commander, March 3, 1865; commander, Aug. 13, 1872; and captain, Nov. 3, 1884; and was appointed Chief of the Bureau of Yards and Docks with the relative rank of commodore April 2, 1889. During his naval career he was on sea service thirteen years and five months, on shore or other duty twenty years and three months, and was unemployed one year and eight months. He was attached to the "Saratoga" in the action at Vera Cruz, which resulted in the capture of the steamers "Miramon" and "Marquis de la Habana," in 1860; was on the "Ottawa," of the South Atlantic blockading squadron, in 1861-'63; took part in the engagement at Port Royal, Feb. 1, 1862; the engagement with the Confederate fleet on Cape Fear river, in February; the capture of Fernandina and the action on St. Mary's river, in March of the same year; and while on the steamer "Mendota," of the North Atlantic blockading squadron, in 1864-'65, took part in the capture of Fort Fisher. He was a member of the Philadelphia Harbor Commission.

White, Julius, army officer, born in Cazenovia, N. Y., Sept. 29, 1813; died in South Evanston, Ill., May 12, 1890. He removed to Chicago in 1836, engaged in business and political affairs, and was appointed collector of the port of Chicago by President Lincoln. But he soon resigned this office, raised an infantry regiment for the national service, and went to the front. He served as colonel of the 37th Illinois Volunteers, under Gen. Fremont, in the early Missouri campaign, commanded a brigade, and was wounded in the Battle of Pea Ridge; was promoted brigadier-general of volunteers in June, 1862, and was transferred to the Army of Virginia under Gen. Pope. At the defense of Harper's Ferry he was taken prisoner, and after being exchanged was ordered to Kentucky to fight guerrillas. On the reorganization of the 23d Army Corps in 1863, he was given command of the 2d Division, led the right wing of Gen. Burnside's Army of the Ohio into Tennessee, and took part in the battles of Loudon and Knoxville. He was conspicuous in several of the campaigns of 1864 till compelled by failing health to resign, and was brevetted major-general of volunteers at the close of the war. In 1872 he was appointed United States minister to the Argentine Republic. Four days before his death he was elected Commander of the Illinois Department of the Loyal Legion.

Whiteley, Richard Henry, lawyer, born in Ireland, Dec. 22, 1830; died in Boulder, Col., Sept. 26, 1890. He emigrated to Georgia in 1836, educated himself, and was engaged in manufacturing from boyhood, and studied law and was admitted to the bar in 1860. In the following year he opposed the secession of the State, but after the adoption of the ordinance he entered the Confederate army and served till the sur-

render in 1865, attaining the rank of major. In 1867 he was elected a member of the State Constitutional Convention, in 1868 was the Republican candidate for Congress from the 2d Georgia District, and though elected was deprived of his seat. In the same year he was appointed Solicitor-General of the Southwestern Circuit; in February, 1870, was elected United States Senator for the term ending March 3, 1871, but again failed to secure his seat; and in 1870 and 1872 was elected Representative and seated. He served in Congress as a member of the committees on manufacturers and on public expenditures. He removed to Boulder in 1877, and there resumed practice.

Wigginton, Peter Dinwiddie, lawyer, born in Springfield, Ill., Sept. 6, 1839; died in Oakland, Cal., July 7, 1890. He removed with his parents to southern Wisconsin when four years old, was educated in the University of Wisconsin, studied law and was admitted to the bar, and removed to Merced County, Cal. In 1864 he was elected district-attorney of the county, and he held the office for four years. In 1874 and 1876 he was elected to Congress from the 4th California District as a Democrat. The election certificate, after his second candidacy, was given to his Republican opponent, but on his contest the House of Representatives decided in his favor. In 1886 he made an attempt to revive the old American party, and as candidate for Governor of California he received more than 8,000 votes in the ensuing election. In 1888 he was chairman of the American National Convention, and the first choice of his party for the Presidential nomination, but he declined it and accepted the nomination for Vice-President. The ticket received but 1,591 votes, all in California.

Wilber, David, farmer, born in Schenectady County, N. Y., Oct. 5, 1820; died in Oneonta, N. Y., April 1, 1890. He removed with his parents to Milford, Otsego County, N. Y., when a boy, received a common-school education there, was supervisor of the town in 1858-'59, and for thirty years was one of the most extensive hop growers in New York. He organized the Wilber National Bank of Oneonta, and was president of it till his death, and at various times was a trustee of Cazenovia Seminary and Syracuse University and a director of the Albany and Susquehanna and the Cooperstown and Susquehanna Railroads. He was elected to Congress from the 24th New York District as a Republican in 1872, 1878, 1886, and 1888, and was a delegate to the Republican National Convention in 1880. His last service in Congress was on the committee on banking and currency.

Wilcox, Cadmus Marcellus, military officer, born in Wayne County, N. C., May 19, 1826; died in Washington, D. C., Dec. 2, 1890. He was graduated at the United States Military Academy and appointed a brevet 2d lieutenant in the army in 1846, was brevetted 1st lieutenant for gallantry at the storming of Chapultepec, Mexico, and was promoted 1st lieutenant Aug. 24, 1851. From 1852 till 1857 he was assistant instructor in military tactics at the United States Military Academy, then spent a year in Europe on sick leave, was promoted captain of infantry in December, 1860, and while on frontier duty in Arizona in 1861 was ordered to report at Washington for service in suppressing the rebellion. A few days after receiving this order he learned that his State had seceded, and on June 8 he resigned his commission in the national army. Almost immediately he was appointed a colonel in the provisional army of the Confederacy and given command of an Alabama regiment. He re-enforced Gen. Beauregard at Manassas, commanded a brigade in Longstreet's corps at the second Bull Run, Fredericksburg, Chancellorsville, and Gettysburg, and a division under Gen. Ambrose P. Hill at the Wilderness. He served with the Army of Northern Virginia to the close of the war, being promoted brigadier-general Oct. 21, 1861, and major-general Aug. 9, 1863. After the war he declined a brigadier-general's commission in the Egyptian army, in 1879 was appointed a messenger in the United States Senate, and in 1886 became Chief of the

Railroad Division of the General Land Office in Washington. Gen. Wilcox published "Rifles and Rifle Practice" (New York, 1859), and translated "Evolution of the Line, as practiced by the Austrian Infantry, and adopted in 1853" (1860).

Wilson, Eugene M., lawyer, born in Morgan County, Va., Dec. 25, 1833; died in Nassau, New Providence, April 10, 1890. He was graduated at Jefferson College in 1852, studied law and was admitted to the bar, removed to Minnesota in 1855, and was United States District Attorney from the Minneapolis District from 1857 till 1861. He served with the 1st Minnesota Cavalry through the civil war, and in 1868 was elected to Congress as a Democrat from the 2d Minnesota District. He served in that body as a member of the committees on the Pacific Railroad and on public lands.

Winans, Garret E., capitalist, born on Staten Island, N. Y., in October, 1813; died in Bayonne, N. J., Aug. 11, 1890. Fatherless and penniless, he shipped before the mast when eighteen years old, within a year was placed in command of the schooner "Gilletta," three years afterward purchased it, and in the course of a few years was the owner of a fleet of fifteen vessels. In the early part of the civil war he built and chartered to the Government five steamboats. He made a fortune during the war, and after it held for some time the contract for cleaning the streets of New York city. A fortunate investment at Harsimus Cove, Jersey City, made him a millionaire. He spent many years in foreign travel, and published "Journal of Travels over the Continents of Europe, Asia, and Africa, and the Islands of the Seas" (1872), and "Around the World" (1877). He gave Rutgers College \$100,000 with which to build a dormitory. He was a delegate to the General Synod of the Reformed Church, a trustee of the Foreign Board of Missions, and a Hudson County Park Commissioner.

Woods, George L., lawyer, born in Boone County, Mo., in 1822; died in Portland, Ore., Jan. 8, 1890. He emigrated to Oregon in 1847, worked on a farm and studied law, and was admitted to the bar in 1858. He became active in politics, was made county judge of Wasco County, Ore., in 1863, and lacked only a few votes of securing the nomination for judge of the Supreme Court. He was a Lincoln presidential elector in 1864, and in 1865 was appointed judge of the Supreme Court of Idaho, but declined. In the latter year he was elected Governor of Oregon, and served till 1870. In 1871 he was appointed Governor of Utah, where he actively enforced the anti-polygamy laws. In 1875 he removed to California.

Wright, John G., engineer, born in New York city in 1827; died there, Nov. 2, 1890. At the beginning of the civil war he was doing a successful business in New York city as a builder. He and his brother David were members of the 7th Regiment, and accompanied it on its first trip to the seat of war. On their return both brothers re-enlisted in New York, while two others, George and William, enlisted in Western armies. John re-entered the field as a captain in the 51st New York Veteran Volunteers, was promoted major in March, 1863, lieutenant-colonel in December, 1864, and in March, 1865, was brevetted brigadier-general for distinguished services during the war. He accompanied Gen. Burnside's expedition to North Carolina, was in the battles of Kelly's Ford, Rappahannock Station, Sulphur Springs, Bristow Station, the second Bull Run, and Chantilly. He was taken prisoner at Poplar Grove in September, 1864, and was confined six months in Libby, Salisbury, and Danville prisons. He was three times wounded in battle. The earthworks of the 9th Army Corps in front of Petersburg were planned by him and constructed under his supervision. After the war he engaged in building macadamized roads in various parts of the country, making his home in Orange, N. J. He died from a surgical operation.

Young, Andrew H., military officer, born in Barrington, N. H., June 16, 1827; died in Dover, N. H., Dec. 10, 1890. He received a public-school educa-

tion, served some time as superintendent of public schools, was register of deeds in Strafford County in 1855-'60, was appointed clerk of the Supreme Court of New Hampshire in 1860, and resigned to become a 1st lieutenant and quartermaster of the 7th New Hampshire Infantry, Oct. 22, 1861. In 1862 he was promoted captain; from December, 1862, till July 1, 1864, he served in all the campaigns of the Army of the Potomac; was then appointed an additional paymaster, and served in the Army of the Potomac, in the Department of the Platte, and in Wyoming Territory, and on March 13, 1865, was brevetted lieutenant-colonel of volunteers for faithful and meritorious services during the war. He was mustered out of the service July 20, 1866; was Collector of Internal Revenue, first for the 1st District of New Hampshire, and then for the entire State, from April 29, 1869, till April 29, 1882; and was appointed captain and assistant quartermaster, Nov. 13, 1884.

Zilliox, Jacob, clergyman, born in Newark, N. J., Oct. 14, 1849; died there, Dec. 31, 1890. In 1862 he became a novitiate of the Benedictine Order at St. Vincent's College, Westmoreland, Pa.; in 1868 went to Europe to finish his education; in 1869 attended the Ecumenical Council in Rome, and afterward spent several years in the Jesuit University at Innsbruck, Austria, and at Regensburg, Bavaria. In 1872 he was ordained a priest of the Roman Catholic Church, and, in recognition of his scholarly attainments, the Pope granted a dispensation for him to receive the degree of D. D. a year earlier than is common in the Roman Church. Dr. Zilliox returned to the United States in 1875, and held the chair of Theology in St. Vincent's College till 1880, when he was appointed friar. On Feb. 11, 1885, he was elected the first abbot of St. Mary's Priory, in Newark, N. J., being then the youngest abbot in the world. Failing health caused him to resign in 1886.

OBITUARIES, FOREIGN. Sketches of a few of the most eminent foreigners that died in 1890 may be found in their alphabetical places in this volume, accompanied with portraits.

Adler, Nathan Marcus, Chief Rabbi of the British Orthodox Jews, born in Hanover in 1803; died in Brighton, Jan. 21, 1890. He was the son of the Chief Rabbi of Hanover, a descendant of the priestly family of Aaron. He studied at the universities of Göttingen, Erlangen, and Würzburg, and was appointed Chief Rabbi of Oldenburg in 1829, and in 1830 of Hanover. In 1845 he was called to London as Chief Rabbi of the United Congregations of the British Empire. The bitter animosities awakened by the sentence of excommunication pronounced by his predecessor against the reforming Jews who had undertaken to remodel the German ritual of the synagogue were appeased in a great measure by his conciliatory ways, and though he held firmly to the traditional rite and the two bodies remained apart, they worked together for charitable and educational purposes, in which they were joined by members of the older Portuguese and Spanish congregations, who were independent of the Chief Rabbi's authority, which otherwise extended to all parts of the British Empire and to other countries where there were English-speaking Hebrews following the German rite. His unbending adherence to the Talmudical observances was repugnant to a large section of the younger generation of Hebrews, though no new schism arose. His chief literary work was "*Nethina Laqér*," a commentary in Hebrew on the Chaldaic version of the Pentateuch known as the "*Targum*" of Onkelos. He wrote other books in classical Hebrew, and published a volume of "*Sermons on the Jewish Faith*."

Alberti, Carl, a Danish politician, born in 1814; died in the latter part of May, 1890. He entered politics soon after terminating his legal studies in 1839, and by his editorials in the "*Kjöbenhavn Posten*" did great service for the Liberal party. In 1849 he was elected to the Folkething for the district of Soroe. This seat he held till illness compelled him to resign

in January, 1890. In his long parliamentary career he was the most active member of the Opposition. He was respected no less by his adversaries than by his political associates, and as a lawyer he enjoyed a high reputation and occupied important places of trust, among them that of manager of the Danish Farmers' Savings Bank, which began with a few thousand kroner and has to-day 50,000,000.

Anethan, Baron Jules d', a Belgian statesman, born in 1804; died in Brussels in October, 1890. He entered the civil service at the age of twenty, and in 1843 became Minister of Justice, exchanging this portfolio for that of the Interior, and later for that of War, and retiring in 1847. In 1849 he became a member of the Senate, and in that body he played an important part till the close of his career. He was one of the leaders of the Clerical party, and in 1870 he formed a cabinet, in which he chose for himself the portfolio of Foreign Affairs, the most important and difficult office during the continuance of the war between France and Germany. An unpopular appointment entailed the defeat and resignation of his ministry at the close of 1871. He was chosen President of the Senate in 1884.

Aube, Hyacinthe Laurent Théophile, a French naval officer, born Nov. 22, 1828; died in Paris, Dec. 30, 1880. He entered the French Naval Academy in 1840, and from the date of his first commission nearly the whole of his life was spent on the sea. He was a post captain during the French war, and was present at all the engagements on the Loire. In 1850-'51 he was Governor of the colony of Martinique. In 1857 Rear-Admiral Aube was given the portfolio of the Marine in M. de Freycinet's Cabinet, and during his administration the policy of building heavily armored battle ships was changed in accordance with his ideas, and swift belted cruisers or commerce destroyers were begun. He was a strong advocate of torpedo boats, and to him the French navy is indebted for the new class having a speed of 20 knots.

Audouard, Olympe, a French author, born about 1830; died in Nice, Jan. 14, 1890. She was the divorced wife of a notary of Marseilles, and became an agitator for the emancipation of women. Essaying to publish a journal under the empire, she was prosecuted by the authorities, and an injunction was issued on the ground that only a French citizen enjoying full civil and political rights was authorized by law to print a newspaper. She then arranged meetings for the discussion of subjects relating to the health of women under the presidency of Alexandre Dumas, the younger. Madame Audouard traveled through Egypt and Turkey and visited the community of the Mormons, and published essays treating of the conditions of women in those countries. In her later years she was a conspicuous advocate of equal political rights for women, and organized meetings for the propagation of this idea.

Auersperg, Prince Karl, an Austrian statesman, born May 1, 1814; died Jan. 4, 1890. Succeeding early to the great family estates of Wlaschin in Bohemia and Gottschee in Carniola, and lands besides in Moravia and upper Austria, he devoted himself to their management and occupied himself little with politics, beyond taking his stand among the higher Bohemian aristocracy with the section that favored Moderate Liberal tendencies and siding with the families of Clam and Windischgrätz, and a branch of the Thuns against Czech nationalistic ideas. In 1860 began his political career, when Schmerling, in order to counteract the Czechish influence of Prince Karl Schwarzenberg, had him proposed as President of the Bohemian House of Nobles. He won over others to the new system of centralism, and in a short time stood at the head of a party of Liberal Bohemian peers with German sympathies in opposition to Auersperg's feudalistic Conservative Cech. The rivalry between the two princely houses forms a part of the modern history of Bohemia, and was important in its influence on the political development of the Austrian Empire. His partisan zeal was no obstacle to his presiding with fairness over the House of Lords from

1861, when he was chosen its president. Retiring when Count Belcredi succeeded Schmerling as Austrian Prime Minister, he returned to preside over its deliberations again for a short time after the fall of the Belcredi ministry, till he was called, on Dec. 30, 1867, to the head of the so-called *bourgeois* ministry, which included among its members Count Taaffe and the leaders of the Constitutional party in the Austrian House of Deputies. Prince Auersperg was accused of time-serving opportunism by his enemies, because he took office on the dualistic reorganization of the empire, after having obstinately contended with Schmerling against the Hungarian demands. "The Austrian patriot must henceforth have a divided heart," he had said at the opening of the Bohemian Upper Chamber, and after he became minister his phrase was that "union must be sacrificed to preserve unity." As President of the *Bürgerministerium* he came into conflict with his colleagues, who were in haste to carry out the liberal ideas of the new system, which the old Centralist, who never was able to recognize the political capabilities of the Hungarians and condemned them as an inferior race, was slow to accept. He objected also to Count Beust's constant interference in internal politics, and when, in 1868, the head of the Common Ministry negotiated with the Czech leaders to induce them to enter the Austrian Parliament, Auersperg took the opportunity to resign. When constitutional principles seemed for a time to triumph again, instead of returning as chief of the Austrian Cabinet, he put forward his brother Adolf for the place. As chief marshal of the province, he presided over the sittings of the Bohemian Diet from 1862 till it was dissolved in 1864.

Augusta, Dowager German Empress, born in Weimar, Sept. 30, 1811; died in Berlin, Jan. 7, 1890. She was a daughter of Duke Karl Friedrich of Saxe-Weimar and his wife, Maria Paulovna, Grand Duchess of Russia. Her childhood and early youth were passed amid the literary influences that made the court of her grandfather, Karl August, friend of Goethe and patron of Schiller, Wieland, and Herder, the nursery of modern German poetry. Her elder sister, Marie, became the wife of the third son of King Friedrich Wilhelm III of Prussia in 1827, and in February, 1829, she was betrothed, and on June 11 wedded to the elder brother, Prince Wilhelm, then thirty years of age. The favorite granddaughter of the princely Mæcenas of German literature, she had received the special attention of the aged Goethe and of the constellation of bright spirits at Weimar, and brought to Berlin literary tastes and intellectual sympathies that were further nurtured and developed by her intercourse with Alexander von Humboldt and Friedrich von Raumer. Her intellectuality and refined æsthetic tastes were not shared by her martial husband, and even the uncommon beauty that she possessed in her youth failed to win his affections, for they had been drawn elsewhere before he met the young princess. Their relations therefore remained always very cold, and except in her literary pastimes, taste for art, works of charity, and the introduction of more correct and dignified manners at court, the Queen had small room for the exercise of her active brain, and none at all for the satisfaction of her political leanings toward free institutions springing from the recollection that her grandfather was the first German prince to grant a constitution to his subjects, and fostered by contact with the English court when the Prince of Prussia was a fugitive from his country after the uprising of 1848. Her influence probably had some effect on his action in granting the constitution that his brother would never have signed. Queen Augusta in early life was a musician and the composer of marches and of "The Masquerade," a ballet that has often been given in the opera house. She was also an amateur artist, and made the drawings of "Wartburg-Blätter" (1863), "Rheinlanlagen bei Coblenz" (1865), and, with her daughter, those of a book on the ornamentation of Lutheran church architecture. She was much interested in encouraging

and following the results of scientific progress, but for the last twenty years of her life she gave her mind entirely to benevolent schemes, founding hospitals, training-schools, people's kitchens, and other establishments for the benefit of the lower classes. She was the founder of the German Women's Red Cross Guild in 1870. She always took a strong interest in the theory of education, and gave much thought and labor to forming the minds of her children, the Crown-Prince Friedrich Wilhelm, who became the Emperor Friedrich, and his sister, seven years his junior, the present Grand Duchess of Baden.

Baccarini, Alfredo, an Italian statesman, born in the Romagna in 1826; died in Rome in the beginning of October, 1890. He took part in the struggle for freedom and national independence in 1848, fighting at Treviso, Vicenza, and Bologna, and when the cause was lost he went back to his province to settle down to the practice of his profession, having studied engineering; but the authorities would not permit him to take his diploma, and did not withdraw their objections till he had given undeniable proofs of his ability while serving for four years in a subordinate capacity. When the national contest was renewed, he was one of the deepest and most ardent and untiring of the conspirators, and after the Papal and foreign dominion was overthrown, he bore a conspicuous part in the political organization of the Romagna, directed important works of engineering in that province and in the Maremma of Tuscany, held office in the local administration, was pro-syndic of Ravenna, and, after twice being elected to the Chamber and unseated on account of his official posts, he was finally admitted to Parliament, in which he afterward represented Ravenna continuously. In 1876 he was appointed Under Secretary of Public Works in the ministry of Depretis, but could not agree with his chief, and soon retired. Cadrolì in 1878 called him to the head of this department of the Government, and for five years he was minister under a succession of governments. He contended against the policy of Depretis, who refused to act with the Left alone, and when that sagacious minister obtained a strong coalition majority, Baccarini, who had been the most uncompromising of the new departure, left the ministry, and ranged himself in Opposition with other Radical leaders, forming one of the so-called Pentarchy, of which Crispi, Cairoli, Nicotera, and Zanardelli were the other members. When Crispi finally entered the ministry and, on the death of Depretis, succeeded to the premiership, Baccarini maintained his independent and unyielding attitude, still clinging to the hope of forming a Government of the pure Left. Although he had long ceased to play a prominent part in politics, his name and fame were always fresh in the public mind, and when his life was ebbing away the whole Italian nation watched anxiously the fate of the political philosopher and champion of liberty whose civic virtue, moral courage, and amiability of character commanded universal respect.

Baines, Sir Edward, an English politician, born on May 28, 1800; died near Leeds, March 2, 1890. He was educated at the Dissenters' Grammar School in Manchester, became a reporter on his father's paper, the Leeds "Mercury," at the age of fifteen, interested himself in educational and social questions, took a leading part in the formation in his native town of the Literary and Philosophical Society and of the pioneer Mechanics' Institute in Yorkshire, and was a prominent advocate of the abolition of slavery, parliamentary and municipal reform, religious equality, the repeal of the corn laws, the revision of the criminal laws, and especially of the cause of temperance among the masses. On the death of his brother, Matthew Talbot Baines, in 1859, he was elected to represent Leeds in Parliament. He was a member of the commission to inquire into the school system in 1865-'68, and a warm supporter of the school act of 1870, and as a representative Dissenter he energetically opposed church rates and religious tests in the universities and worked for the bill to disestablish the Church in Ire-

land, but distinguished himself most of all by bringing forward bills in 1861 and 1864 for enlarging the electoral franchise, and in 1865 by drawing to his measure the support of the Liberal ministers and paving the way for the subsequent parliamentary reforms. Owing to differences with his constituents he lost his seat in 1874. He was knighted in 1880. Sir Edward Baines was a working journalist for seventy years. Besides a life of his father, he published a "History of the English Cotton Manufacture" (1835), and lectures and tracts on social and political questions.

Barnett, John, an English musician, born near Bedford, July 15, 1802; died April 17, 1890. He was the son of a German father and a Hungarian mother; sang in Drury Lane and Covent Garden theatres as a child; studied the piano and composition under Ferdinand Ries, Kalkbrenner, Sento Perer, William Huxley, and Xarcier Schneider, and in 1834 produced the "Mountain Sylph," the first successful English opera, which was followed in 1836 by "Fair Rosamond," and in 1839 by "Farinelli." In addition to these operas he composed "The Pet of the Petticoats," "The Carnival of Naples," "Before Breakfast," "Mr. Mallett," and "Win and wear her," light musical dramas that were all popular, and nearly a thousand songs and ballads, among which the best known are "Rise, Gentle Moon," "Not a Drum was heard," and the "Light Guitar." He married in 1839 a daughter of Robert Lindley, a famous violoncellist, and resided for the rest of his life at Cheltenham, devoting his attention chiefly to the study of the voice and the best method of vocal training, on which he published an important treatise.

Bauernfeld, Eduard von, an Austrian poet, born in 1802; died in Döbling, near Vienna, Aug. 9, 1890. He was the son of poor parents, and in 1825 obtained a clerkship in the office of the State Lottery. He was not known as a writer till the revolutionary epoch of 1848, when he became the laureate of the popular cause and wrote pieces for the royal theatre, in which the ideas of liberty and equality that had been banned under the iron rule of Metternich were glowingly eulogized. When the reaction triumphed, he was told that he must either cease to write or leave the Government service, and in 1851 he chose to give up his appointment and devote himself to literature. He wrote a great number of graceful plays picturing the joyous life of the Viennese, full of tender sentiment and homely humor, and in spirit and style racy of the scenes, customs, thoughts, and feelings of the people of his native town. In youth he was a friend of Franz Schubert, for whose opera "Graf von Gleichen" he wrote the libretto. His most famous plays are: "Der deutsche Krieger," "Der neue Mensch," "Der Kategorische Imperativ," and "Moderne Jugend." He was buried at the expense of the city in the inclosure reserved for its illustrious dead, by the side of the tombs of Beethoven and Schubert.

Baxter, William Edward, an English politician, born in Dundee in 1825; died in London, Aug. 10, 1890. He studied at Edinburgh University, and succeeded Joseph Hume as member of Parliament for Montrose in 1855. He declined office several times before he became Secretary to the Admiralty under Mr. Gladstone in 1868 in an administration pledged to economy. In 1871-73 he was Secretary to the Treasury. He was a conspicuous friend of the United States during the war of secession, and has always been a vigorous opponent of the ecclesiastical establishments in England and Scotland. Mr. Baxter was a merchant in the foreign trade at Dundee, and was also the author of "Impressions of Central and Southern Europe" (1850); "The Tazus and the Tiber" (1852); "America and the Americans" (1855); "Hints to Thinkers, or Lectures for the Times" (1860); "Free Italy" (1874); and "A Winter in India" (1882).

Belcastel, Jean Baptiste de Laoste de, a French Legationist politician, born in 1821; died in Colomiers, near Toulouse, Jan. 21, 1890. His life had been taken up with agricultural occupations till 1871, when he was elected to the Chamber. There he became the

leader of the Extreme Right, which opposed not only Thiers, but the MacMahon septennate. In 1873 he headed the fifty Deputies who made a pilgrimage to Paray-le-Monial. He secured the adoption of a clause in the new Constitution directing that prayers should be offered in the churches at the opening of every session of the Parliament. This clause was soon stricken out. M. de Belcastel was a member of the Senate from 1876 till 1879, when he failed to be re-elected, and retired from political life. The earnestness of his convictions was admired by those who least sympathized with his mediæval ideas.

Belot, Adolphe, a French novelist, born at Point-à-Pitre, Guadeloupe, Nov. 6, 1821; died in Paris, Dec. 18, 1890. After traveling through the United States and South America and studying law in Paris, he began to practice as an advocate at Nancy, but altered his mind and entered on a literary career, although his first novel, "Châtiment" (Paris, 1855), was not successful, nor his first play, a comedy in one act called "A la campagne," produced two years later. The novel, which he published at his own charge, was peculiarly profitable, for while he was absent on a second journey through the United States the edition was bought by deluded purchasers who wanted the "Châtiments" of Victor Hugo. His second play was "Le Testament de César Girodot," a comedy in three acts, written with the assistance of Charles Edmond Villette, which from its first production at the Odéon Theatre, on Sept. 30, 1859, till the present day has never ceased to amuse the theatre-going public of Paris. Belot wrote novels, some of which passed through one hundred editions, which he dramatized. Some of his plays reached two hundred representations. One of his novels, published in the "Figaro," was suppressed as being immoral. The most celebrated of them is "Madame Giraud, ma femme" (1870). A series of four connected novels entitled "Les Mystères mondains," "Les Baigneuses de Trouville," "Madame Vitel et Mademoiselle Lehièvre," and "Une maison centrale des femmes," was his most ambitious work of fiction. More popular were: "Le Parricide" (1873); "Mémoires d'un caissier" (1874); "Hélène et Mathilde," "Deux femmes," and "Folies de jeunesse." "Dacard et Lubin" is a sequel to "Le Parricide." "La Sultane Parisienne" was translated into English (London, 1879). "Fromont jeune et Risler aîné" is a drama founded on Alphonse Daudet's novel of the same name. Among his most famous works are: "Drame de la Rue de Paix," "L'Article 47," "Miss Multon," "La Femme de feu," "La Femme de glace," "La Venus noire," "Un secret de famille," "La Vengeance du mari," "Les Parents terribles," "Les Maris à système." His "Etrangleurs de Paris" is a famous piece that was first acted at the Porte St. Martin Theatre on March 17, 1880. Belot earned a vast sum of money by his plays and novels. He was made a knight of the Legion of Honor in 1867.

Biggar, Joseph Gillis, an Irish politician, born in Belfast in 1828; died in London, Feb. 19, 1890. He entered his father's business in youth, and in 1861 succeeded as head of the firm, which dealt in bacon and provisions. He engaged in politics from 1869, and was elected a member of Parliament for County Cavan in 1874. He became a member of the supreme council of the Irish Republican Brotherhood, with the object, however, of checking the progress of the physical-force doctrine and leading the organization into the channel of constitutional agitation. He ranged himself by the side of Charles Stewart Parnell when the latter entered Parliament in the following year. On April 22, 1875, he introduced, in contending against the passage of the Peace Preservation bill, the redoubtable tactics that came to be known as obstruction by occupying the time of the House for four hours in reading and commenting on the evidence taken by the Westmeath Commission. He took an active part in the Land League movement, and was one of the original treasurers of the League. In August, 1877, he was expelled from the Fenian or-

ganization. In 1880 he delivered aggressive speeches in Ireland, and in 1880-'81 he was one of the travellers in the state trials. He was one of the few prominent members of the Irish party who were never in prison, which he escaped at that time by going to Paris after the suppression of the Land League and living for a considerable period in exile. After his return he was made the defendant in a sensational breach of promise suit brought by Fanny Hyland, whose acquaintance he made abroad.

Blanchett, Joseph Goderick, a Canadian statesman, born in St. Pierre, June 7, 1829; died in Quebec, Jan. 2, 1890. He studied medicine, raised a battalion of volunteers and was commander of the troops stationed south of the St. Lawrence during the Fenian raid of 1866 and in 1870, engaged in the railroad business and entered politics, became a member of the Canadian Assembly in 1861 and after the act of union of the Quebec Assembly, officiating as Speaker till 1875. In 1873 he was appointed a member of the Catholic section of the Quebec Council of Education. Being defeated in the town of Levis, of which he was mayor for six years, and which he represented as a Liberal Conservative in the Provincial Assembly from 1867 till 1875, he was elected for Bellechasse, and represented that constituency until he was re-elected for Levis in 1878.

Boehm, Sir Edgar, English sculptor, born in Vienna, Austria, July 4, 1834; died in London, Dec. 12, 1890. His father, a Hungarian, was director of the Austrian mint. After studying his art in Vienna, Paris, and Italy, he settled in England in 1862. He executed a colossal statue of the Queen in 1869, and received many other commissions from her; was appointed her sculptor in ordinary in 1881; and in July, 1889, was created a baronet. Among his best-known works are a colossal statue of John Bunyan and statues of Lord Napier of Magdala, Earl Russell, Lord Lawrence, Thomas Carlyle, William Tyndall, Lords Beaconsfield and Stratford de Kedwylfe, and Dean Stanley. He made busts of many of the British statesmen, military men, and men of science, bronze figures of famous race horses, and models of lions and bulls.

Booth, Catherine, wife of Gen. William Booth, the organizer and chief of the Salvation Army, born in the west of England in 1835; died in Clacton-on-Sea, Oct. 4, 1890. She was married at the age of twenty-five, her maiden name having been Mumford. In the building up of the Salvation Army she took a part that was only second to that of her husband, and that earned for her the title of its "mother." She was a fluent and effective platform speaker and the author of books written in aid of the organization and its missionary objects, among which are "Godliness," "Heathen England," and "The Relation of the Salvation Army to Church and State." When she died, instead of signs of grief and mourning, her relatives and associates gave public expression to their joy over her passage to a happier state.

Brackenbury, Henry, an English general, born in Bolingbroke, Lincolnshire, Sept. 1, 1837; died in London, June 20, 1890. He was educated at Eton and at the Woolwich Military Academy, entered the artillery, and served in 1857 and 1858 in the suppression of the Sepoy mutiny in India, after which he returned to England, and was appointed instructor in artillery and subsequently Professor of Military History in the Royal Military Academy. During the Franco German War he was the chief representative of the British society for aiding the sick and wounded. In 1873-'74 he served as military secretary to Sir Garnet Wolseley in the Ashantee campaign, and in 1875 went on a special mission to Natal. He was assistant adjutant-general of the force that occupied Cyprus in 1878, and organized the Cyprus military police. Accompanying Gen. Wolseley to South Africa in 1879 as military secretary, he served as chief of staff in the closing operations of the Zulu war and in the operations against Secoceni. In 1880 he was Lord Lytton's private secretary in India, and in January, 1881, was appointed military *attaché* to

the British embassy in Paris, whence he was recalled in May, 1882, to take charge of the military police in Ireland as assistant under-secretary. This post he resigned in the following July. In 1884 he served with the Nile expedition as deputy adjutant-general, and subsequently as second in command of the river column, with the rank of brigadier-general, succeeding to the chief command of the column when Gen. Earle was killed. He was promoted major-general, and on Jan. 1, 1886, was appointed head of the intelligence department of the British army. Gen. Brackenbury published a "Narrative of the Ashantee War" and "The River Column."

Brand, Johannes Henricus, President of the Orange Free State, born in Cape Town, Dec. 6, 1823; died July 15, 1890. He was a son of Sir C. Brand, Speaker of the Cape Assembly, who died in 1875, and was educated at the South African College and at the University of Leyden, where he received his degree of D. C. L. in 1845. He was called to the bar in 1849, returned to Cape Colony, and till 1863 was an advocate in the Supreme Court. In 1853 he was appointed Professor of Law in the South African College. He was elected President of the Orange River Republic in 1863, and in 1869, 1874, 1879, 1884, and 1889 was re-elected. He was a believer in the necessary subordination of the Orange Republic to the policy of the British Government, which consequently showed him every mark of favor and in 1882 knighted him.

Burns, Sir George, a Scotch ship owner, born in Glasgow, Dec. 10, 1795; died at Wemyss Bay, June 2, 1890. He was the son of a distinguished minister, and in 1818 went into mercantile business in Glasgow. His firm acquired vessels in the coasting trade, and in 1824 engaged in steam navigation. He raised the capital to carry out the idea of a line of transatlantic steam packets, suggested to him by Samuel Cunard, of Halifax, the first four of which, all wooden paddle-wheel vessels, were built in 1840. Cunard, Burns, and MacIver, the founders of the company, bought out the other shareholders, and George Burns managed its affairs until he retired in 1860, and transferred the direction to his son John. He was created a baronet of the United Kingdom in 1889.

Callaway, Henry, an English missionary, born Jan. 17, 1817; died March 27, 1890. He was educated at Dr. Lightfoot's school in Crediton, studied medicine in London, and became a successful practitioner. After becoming a member of the Society of Friends and rejoining the Church of England, he followed his religious bent in 1854 by going out to assist Bishop Colenso in his missionary enterprise. He was ordained and appointed to the first church built in Natal, St. Andrew's at Pietermaritzburg, in September, 1858. He founded in 1858 the missionary station of Spring Vale, which he made a center of Christian and civilizing influence among the Zulu Caffres, with whose language, beliefs, traditions, laws, and customs he became thoroughly familiar. Dr. Callaway took a leading part in the work of reducing the Caffre language to writing, and made translations of the Bible and the prayer-book. In 1874 he was consecrated at Edinburgh Bishop of Independent Caffraria, where he founded the town of Umata, containing now a church, a theological school for natives, schools for native and European children, and other institutions of his creation. Bishop Callaway published "Zulu Nursery Tales" in Zulu and English.

Carnarvon, Henry Howard Molyneux Herbert, Earl of, an English statesman, born June 24, 1831; died in London, June 28, 1890. He took high rank as a student at Eton and Christ Church, and having succeeded his father three years before, he began to take part in the debates of the House of Lords after his graduation in 1852. In 1858 he was appointed Under Secretary of State for the Colonies. When Lord Derby became Prime Minister again in 1866 he made Lord Carnarvon Secretary for the Colonies. In March, 1867, after bringing in the bill for the confederation of the British North American colonies, he resigned because he could not agree with his colleagues on the

provisions of the reform bill by which Disraeli outbid the Liberals and transformed the Constitution into a democracy. In 1874 Lord Carnarvon accepted his old post from Mr. Disraeli on the understanding that he should be allowed to carry out in South Africa the policy that had proved successful in Canada. The scheme of South Africa was pushed by the Secretary of State and in Africa by Sir Bartle Frere in a manner that caused great irritation and a disturbance in political relations that led to the Zulu and Transvaal wars; but before the war in Zululand opened Lord Carnarvon had left the Cabinet, having resigned on Jan. 24, 1878, because he disapproved another of Lord Beaconsfield's theatrical strokes, the sending of the British fleet to the Dardanelles. He remained out of office till June, 1885, when he joined Lord Salisbury's short-lived ministry as Lord Lieutenant of Ireland, with a seat in the Cabinet, and again retired before the resignation of the Government after holding the famous negotiations with Mr. Parnell, in which, according to the version of the latter, he agreed to secure to Ireland a parliament in fact and in name. Lord Carnarvon was a man of scholarly tastes and varied accomplishments and a frequent contributor to the press. From 1878 till 1885 he was President of the Society of Antiquaries. He was a traveler in his early life, and in 1860 published a book on "The Druses of the Lebanon." Journals of a visit to Greece, left by his father, who had been also a man of elegant culture, were edited by him in 1869. He wrote a biographical sketch of Dean Mansel in 1875, made a metrical translation of the "Agamemnon" in 1875, published some years later one of the "Odyssey," and in 1889 edited Lord Chesterfield's "Letters to his Godson," which his connection with the Chesterfield family through his first wife, Lady Evelyn Stanhope, had enabled him to discover. He published also a book on the archaeology of Berkshire and Hampshire.

Chadwick, Sir Edwin, an English sanitary reformer, born near Rochdale in 1800; died in East Sheen, July 5, 1890. He studied for the bar in London, supporting himself by writing for the newspapers. Essays on life insurance and preventive police attracted the attention of the Mills and Jeremy Bentham. He became a poor-law commissioner in 1833, and introduced sweeping changes in the system. He was a member of the commission to investigate the condition of factory children, and had the largest share in drawing up the report that served as the basis of the ten hours' law. He became secretary of the new Poor Law Board in 1834 and shaped its policy. Against relief to persons physically capable of laboring he firmly set his face. At his suggestion, the first sanitary commission was appointed in 1838 and the registrar-general's office was created. His arguments on the prevention of disease, re-enforced by the mortality statistics, led to the appointment in 1844 of a second sanitary commission charged with a general investigation into the national health and the means of improving it. Differences between him and his colleagues resulted in the discharge of the poor-law commissioners in 1848, and henceforth he gave his whole attention to sanitation. He was nominated one of the permanent commissioners on the Board of Health when it was created in 1848.

Charpentier, Louis Eugène, a French painter, born in 1810; died in Paris, Dec. 17, 1890. He studied with his father, who was himself the son of an artist, and afterward with Baron Gérard and Léon Coquet, and soon made a reputation by his military scenes. He was successful also with *genre* and historical subjects, painted several portraits for the Versailles Gallery, and illustrated a "History of the Consulate and the Empire." For more than twenty-five years he was Professor of Drawing at the Lycée in Versailles. Among his paintings are: "Bivouac de cuirassiers" (1831); "Rapture d'un dique hollandaise" (1839); "Robert le Diable" (1842); "Prise de la redoute à Moskova" (1843); "Le Duc d'Orléans au siège d'Anvers" (1843); "Beaumarchais donnant des

leçons de musique aux filles de Louis XV" (1848); "Bataille de Tehernia" (1857); "Camp de Châlons" (1859); "En route pour Valmy" (1869); "Manœuvres d'automne" (1876); and "Retour d'Inkerman" (1878).

Chatrian, Alexandre, a French novelist, born in Solatenthal, Lorraine, in 1826; died in Villerscomble, near Paris, Sept. 4, 1890. He was educated at Pfalsburg College; entered the employ of a firm of glass-blowers in Belgium, his family having been in the same business; returned to his college as a teacher, thinking it better for his prospects in the literary career that he dreamed of, and, finding a young townsman who nursed a similar ambition, he began to write stories with him for the local papers. Chatrian became a clerk and eventually cashier in the Eastern Railway offices, but continued his literary partnership with Erckmann. They wrote a play called "Alsace en 1814," which for political reasons was forbidden by the Prefect of Strasburg, where it was placed on the stage in 1848. "L'illustre Docteur Mathéus" (1853) spread their reputation beyond Alsace-Lorraine. They wrote other stories in rapid succession, dealing mostly with Alsatian life, and afterward some tales of the time of the revolution and the first empire that were too pacific in tone to please the authorities. The last of these was "Waterloo." When the war broke out their writings reflected French sentiment, and after the German annexation of Alsace-Lorraine Erckmann remained in Pfalsburg and accepted German rule, but did not sever his partnership with Chatrian, who went to Paris. Their play of "Alsace" was prohibited on account of its violent anti-German sentiment. "Les Kantzau" and a dramatization of their story of "L'ami Fritz" were very successful. They produced no more works together, but fell into a dispute regarding the division of the profits, Chatrian, whose mental faculties were impaired, having been induced by his family to accuse his partner of unfair dealing, on which Erckmann brought a suit, and proved that the larger share of the literary work was his.

Chauveau, Pierre Joseph Olivier, a Canadian statesman, born in Quebec, May 30, 1820; died there, April 4, 1890. He was educated at the seminary of Quebec, was called to the bar in 1841, and in 1843 entered Parliament as a representative of the Reform party for the County of Quebec. He became Solicitor-General of Lower Canada in 1851, Provisional Secretary and a member of the Executive Council in 1853, and Superintendent of Education for the province in 1855. After the act of confederation he represented the county in the Dominion Parliament while retaining his seat in the Provincial Assembly and filling the post of Premier of Quebec from 1867 till 1873. In 1873-'74 he was President of the Senate. He became in 1879 Professor of Civil Law in Laval University, of which he was made dean. Besides some published poems, he wrote a novel of Canadian manners, called "Charles Guérin" (1852), "L'Instruction publique en Canada" (1876), and "François X. Garneau, sa vie et ses œuvres" (1883).

Church, Richard William, an English clergyman, born in Lisbon, April 25, 1815; died in Dover, Dec. 9, 1890. He was the son of a merchant and nephew of Sir Richard Church, who led the Greeks in the war for independence. He was brought up in Italy till his family removed to England after his father's death in 1828. In 1836 he won a first-class in classical studies at Oxford, and in 1838 was chosen a fellow of Oriel College, where he formed a life-long friendship with John Henry Newman, whom he followed to the time of his conversion to the Catholic Church. He was a tutor in the college and a frequent contributor to the "British Critic" and the "Christian Remembrancer" on subjects connected with religious history. These papers were subsequently collected in a volume of "Essays and Reviews" (1853). When the "Guardian" was founded to advocate a middle course after the secession of Newman, he became one of the principal writers in its columns, and later he sent arti-

cles on literary, historical, and philosophical subjects to the "Saturday Review." In 1853 he married and settled down as parson of the country village of Whitley, in Somersetshire, which he reluctantly left in 1871 to become Dean of St. Paul's, having previously declined the archdeaconry of Wells and other tempting offers, just as afterward, throwing himself into the plan for making St. Paul's a popular religious center, he would not leave it to accept the primacy of the English Church.

Cope, Charles West, an English painter, born in Leeds in 1811; died in Bournemouth, Aug. 21, 1890. He studied art in London, and for two years in Italy. After his return his picture of the "Holy Family" attracted much attention. He began to exhibit in the Royal Academy in 1833. "Hagar and Ishmael," painted in 1836, "The Cronies," "Paolo and Francesca," and "The Flemish Mother," executed in 1839, were followed by "Almsgiving," "Poor-Law Guardians," "The Schoolmaster," and "The Cotter's Saturday Night." He designed frescoes for the House of Lords, and after painting "Edward the Black Prince receiving the Order of the Garter" in 1845, he received an order for "The Last Days of Wolsey" from Prince Albert. He was made an associate in the Royal Academy in 1844 and in 1848 an academician. "Young Mother," "Girl at Prayer," "Maiden Meditation," "King Lear and Cordelia," "Departure of the Pilgrims," "Evening Prayer," "Convalescent," are some of his numerous other works, and while Professor of Painting at the Royal Academy between 1867 and 1874 he exhibited "Shylock and Jessica," "Othello," "Domestic Chaplain," "Home Dreams," "Gentle and Simple," "Yes or No," "The Gentle Craft," and other pieces. His plate of the "Life Class" ranks among the strongest of English etchings.

Cornthwaite Robert, an English Roman Catholic clergyman, born in Preston, May 9, 1818; died in Leeds, June 16, 1890. He was educated at St. Cuthbert's College at Ushaw, near Durham, taught in the institution for two years after his graduation in the chair of humanities, then went to Rome to study theology in the English College, and was ordained priest in 1845. For five years he performed the duties of his calling in England, and for the next six years he was rector of the English College at Rome, having been appointed to that post by Pope Pius IX in 1851. Returning to England in 1857, he became secretary to the Bishop of Hexham, and on Nov. 10, 1861, he was consecrated Bishop of Beverley. On the division of the diocese, which embraced the whole County of York till 1878, into the separate sees of Middleborough and Leeds, Dr. Cornthwaite became Bishop of Leeds on Dec. 20 of that year.

Cottesloe, Thomas Francis Fremantle, Lord, an English politician, born March 11, 1798; died near Winslow, Buckinghamshire, Dec. 3, 1890. He was the eldest son of Admiral Sir Thomas Francis Fremantle, was graduated with honor at Oriel College, Oxford, in 1819, was elected as a Conservative to Parliament in 1826, and attacked the poor-law system. He took office under Sir Robert Peel in 1834, as a Secretary of the Treasury, became Secretary at War in 1844, and in 1845 Chief Secretary for Ireland. At the time of the famine he carried palliatory measures to employ the population of Ireland on public works and to build piers and harbors for extending the fisheries. Sir Thomas Fremantle resigned his seat for Buckinghamshire in 1846 and was appointed deputy chairman and afterward chairman of the Board of Public Works, holding this office till 1873. In 1874 he was created Baron Cottesloe.

Couza, Alexander, the adopted son of Alexander John I, the first Prince of Roumania, born about 1867; died in Madrid, April 10, 1890. Although too young yet to enter the Roumanian Chamber, he had begun to take part in political affairs, and was regarded as a pretender to the throne. He was said to have subsidized and inspired the anti-dynastic organ called "Averul," and attracted about him a group of politicians who set on foot the revolt of the peasantry

that took place on the fall of Joan Bratiano. The death of Prince Alexander Couza occurred during his wedding journey.

Crawford, William, an English politician, born in Whitley in 1823; died in Durham, July 1, 1890. He was the son of a miner, and in his childhood and youth worked in the coal mines of Northumberland. He became a Primitive Methodist preacher, was one of the prominent defenders of trade-unionism, became secretary of the miners' society of Northumberland and Durham in 1862, resigned in 1865 to join in a co-operative enterprise, and in 1870 became secretary of the Durham Miners' Union. In 1885 he was elected to Parliament. He was a member of the parliamentary committee of the Trade Union Congress, and was prominently connected with various labor organizations besides the great union of which he was the popular leader.

Croll, James, an English physicist, born in 1821; died Dec. 15, 1890. He had no educational advantages, but applied himself to scientific studies, and wrote some works on geological and physical problems that gained him a reputation as an original thinker. His books on "Climate and Time," "Oceanic Circulation," and "Stellar Evolution" were widely read.

Daru, Count Napoléon, a French statesman, born in Paris in 1807; died there, Feb. 20, 1890. He was a son of the quartermaster-general of the army of Napoleon I and historian of the first empire. He followed the military profession till 1847, when he retired with the rank of captain. Entering the House of Peers on his father's death, in 1832, he supported the Orleans dynasty and gave his attention to economical questions and the subject of railroads, on which he was a recognized authority. After the revolution of 1848 he was elected a Deputy, acted with the Moderate Republicans, and was chosen Vice-President of the Assembly. He protested against the *coup d'état*, and did not re-enter political life till 1869, when he defeated an official candidate for the Chamber, voted with the Moderate Liberals, and joined the ministry of Emile Ollivier as Minister of Foreign Affairs, succeeding La Tour d'Auvergne. The project of bolstering up the empire by a mock *plebiscite* caused him to retire with Buffet. In 1871 he was elected to the Versailles Assembly at the head of the ticket for the Manche Department. He acted with the Right Center, presided over the inquiry into the events of 1870, and in 1876 retired into private life.

Davis, Sir John, an English diplomatist, born July 16, 1795; died near Bristol, Nov. 13, 1890. He was the son of an official of the East India Company, was appointed a clerk in the factory at Canton at the age of eighteen, and in 1832 rose to be president of the factory. When Lord Napier, who went to China as superintendent of trade, died, in 1834, Davis was intrusted temporarily with the same duties. He was absent from China for some years, returning in 1844 as superintendent of trade and Governor of Hong-Kong. In 1845 he was made a baronet. His action in sending a military expedition to avenge an attack on Englishmen at Fatsan was disapproved by his Government, and in 1848 he resigned. He founded scholarships at Oxford for the study of the Chinese language, and was the author of some of the earliest and most interesting works on the literature, customs, people, and history of China.

Deslandes, Raymond, a French dramatist, born in Yvetot, July 12, 1825; died in Paris, March 20, 1890. He was a fertile and ingenious dramatic author and a skilled and successful theatrical manager. The names of pieces that he wrote alone or in collaboration with others, make a long catalogue. His earliest was "Un et un font un," produced in 1848. "Les Domestiques," the joint production of Deslandes and Eugène Grangé attained great popularity. With Labiche he wrote "Un Mari que lance sa femme." Among his best is the comic drama, often played, called "L'Amant aux bouquets." His greatest triumph was gained with "Antoinette Rigaud,"

played at the Français. The last work of his life was to assist Sardou in the composition of the "Belle-Maman," which was the great success of the season when brought out at the Gymnase Théâtre in 1888. Deslandes, as director of the Vaudeville Théâtre for fifteen years, chose his pieces with rare discrimination, mounted them with care, and was so successful in developing dramatic talents, that his *troupe* was at one time composed entirely of stars, and though these were drafted off, one after another, to the Théâtre-Français, even at the time of his death it was the second company in France.

Döllinger, Ignas, a German theologian, born in Bamberg, Feb. 28, 1799; died in Munich, Jan. 10, 1890. He was the son of a celebrated Professor of Anatomy and Physiology. Leaving the Würzburg Gymnasium at the age of seventeen with his mind well equipped with knowledge of the ancient and modern languages and the elements of the sciences, he chose the study of theology, which he pursued at the universities of Würzburg and Bamberg. Without taking his doctor's degree, he was ordained priest in 1822 and accepted a chaplaincy, which he unwillingly resigned when, through his father's influence, he was appointed Professor of Church History and Canon Law at the Aschaffenburg Lyceum in 1823. Möhler's work on early Christianity first opened before his mind the ideal of a purified Church. A tract written to prove the acceptance in the first three centuries of the dogma of the real presence in the eucharist attracted the attention of Catholic scholars and gained for him in 1826 the doctorate from the Landshut theological faculty, and when in the same year that university was removed to Munich, Döllinger was invited to become an extraordinary professor, and in the very next year was made regular Professor of Church History and Ecclesiastical Law. In 1828 he published a continuation of Hortig's "History of the Church," bringing it down from the time of the Reformation to 1789. The doctrine of a purely spiritual Church taught by the Abbé Lamennais and Count Montalembert created a stir in Munich as in other Catholic centers in Europe, and Döllinger was influenced, but of all the younger Munich theologians he was the least carried away. Hortig's work he revised and remodeled into a "Manual of Church History" (1834-'35) and a "Text-book of the History of the Christian Church" (1836-'38). Möhler's work on the dogmatic differences between Catholicism and Protestantism, which appeared in 1832, gave birth to a mass of controversial literature, and when Ranke published his "History of the Reformation" Döllinger resolved to answer it. His work, which was published in three volumes in 1846-'48, shocked all Protestants by its revelations of the hidden springs, the base motives, political huckstering, and secret intrigues that influenced the development of the Lutheran doctrine and polity. In 1844-'45 he was rector of the university, and lectured to the students on "Error, Doubt, and Truth." He also represented the university in the Bavarian Diet; but when the Ultramontanists triumphed over the Görres group in the exciting period of 1847-'48 he lost his seat in the Legislature with his professorship, although he had been advanced by the King to the dignities of dean of the chapter and court chaplain. He entered the Frankfurt Parliament, and as chief of the Catholic section of the Great German party he opposed the return of the Jesuits and proposed an article making the Catholic and Protestant Churches politically independent of the state, which was afterward incorporated in the Prussian Constitution, but stricken out during the *Culturkampf*. This article, which subjected Döllinger to much criticism, he explained and defended in a pamphlet published anonymously in Frankfurt in 1848. In the first assembly of the German Catholic Union at Mayence he pleaded for a greater national independence of the German Church, and in the meeting of the bishops at Würzburg he successfully justified his position but did not remove the distrust that he had awakened at Rome. He left the Catholic Union in 1850, and at the same time

broke off all relations with Ultramontanism. In that year appeared his gloomy character study, "Luther." On Dec. 24, 1849, King Maximilian restored to the university the brightest light in the theological faculty, but none of Döllinger's old friends and fellow-workers in the Catholic movement came back with him. In 1853 he published a book to prove that not Kallistus, but his anti-Pope Hippolytus was the author of the recently discovered "Philosophoumena." He began also to print a history of the sects and heresies of the middle ages, but stopped the publication to collect fuller materials. He applied himself to a great work on the religious history of mankind, and in 1858 created a sensation in the world of letters by the first volume on "Paganism and Judaism as the Vestibule of Christianity," which was followed in 1860 by "Christianity and the Church at the Time of their Foundation." He did not continue the work as he intended, with a history of the Papacy, for in his researches he found that the accepted history and the development of the Church had been largely affected by falsified records and forged documents. In 1861 he offended the Ultramontanists by his public lectures in Munich, and was unable to cast off the odium by his apology, printed under the title of "Church and Churches, Papacy and the Papal State." The Germanians were not pleased with his opening address at an assembly of Catholic scholars in Munich in 1863, and yet it was condemned in the syllabus of 1864. His book on "Legends of Medieval Popes" increased the dislike of the Jesuit theologians, represented in Germany by the New Scholastic school. In anonymous articles Döllinger showed that the syllabus had no dogmatic authority. The antagonism between the Munich school headed by Döllinger and the Roman ecclesiastics became more and more pronounced. In 1867 he wrote against the canonization of Peter Arbes and glorification of the Inquisition. When the Vatican Council was summoned, Germany was represented only by New Scholastics until Cardinal Schwarzenburg objected. Döllinger was not called on the pretext that he would refuse to attend. When the object of the Council, the adoption of the dogma of Papal infallibility, became known, he summoned all his intellectual powers to combat the idea. His professional position, which he had desired to give up some time before in order to enter the lists openly, obliged him to preserve the cloak of anonymity; yet the force of his style and the immense learning displayed in his polemical articles and in the book that he wrote with some help from Prof. Johannes Huber, entitled "Der Pabst und der Concil von Janus" (1860), left no one in doubt as to their authorship. While the bishops who voted against the dogma in the Council humbly submitted, Döllinger remained firm against every persuasion, though he was unable to get a body of Catholic scholars to join him in an open declaration of resistance in August, 1870. He declared that neither as a Christian, as a theologian, as a student of history, nor as a citizen could he accept the dogma, and in April, 1871, he was excommunicated by Archbishop Scherr. Döllinger applied to the Bavarian ministry for a place of worship for those who were shut out from the fold of the Church because they could not subscribe to the new dogma and summoned a congress of Old Catholics, in which he opposed for a moment the formation of a separate church organization; but he soon recognized the necessities of the position, and approved the efforts of the younger men who did the active work in the movement without formally joining the Old Catholic community, to which he had given birth. In 1872 he delivered lectures "On Reuniting the Christian Churches," which were printed in 1888. In 1873 he succeeded Liebig as President of the Royal Academy of Science, and once or twice a year he delivered addresses which have been published in two volumes (1888-'89). He gave himself up wholly to study, remaining physically and mentally vigorous to the end of his days, but published no other important work.

Dowse, Richard, an Irish jurist, born in Dungannon, County Tyrone, in 1824; died in Tralee, March 14, 1890. He was educated at Trinity College, Dublin, was called to the bar in 1852, and by his learning, wit, and eloquence gained a large practice at the Irish bar. He became a sergeant-at-law in 1868, entered Parliament in the same year, having been elected as a Liberal for Londonderry, was appointed Solicitor-General in 1870, and in 1872 succeeded to the office of Attorney-General for Ireland, but was raised to the bench a few months later, being appointed one of the barons of the Exchequer. He was one of the political judges who construed the law most severely against the Irish Nationalists.

Duffield, Alexander James, an English traveler, born in 1820; died in October, 1890. He lived for a great part of his life in wild and strange regions, following the profession of a mining engineer in South America, Australia, and other parts of the globe, where he underwent exciting adventures. A voyage on a labor cruiser in the South Seas enabled him to furnish the Queensland Government with a report on the system of obtaining Kanakas for the sugar plantations. He published a translation of "Don Quixote" and other books, the most successful of which was "Reminiscences of Travel Abroad."

Ely, Marchioness of, born in 1821; died June 11, 1890. She was a daughter of J. J. Hope Vere and a niece of the Marquis of Tweeddale, and in 1844 married the Marquis of Ely, who died in 1857, leaving two children, the fourth Marquis of Ely and Lady Marion Jane Buchanan. From 1851 Lady Ely was a lady of the bedchamber to Queen Victoria, whose confidence she possessed more than any other.

Feuillet, Octave, a French novelist, born at St.-Lo, in the Department of the Manche, Aug. 11, 1812; died in Paris, Dec. 28, 1890. His father was secretary of the prefecture, and the son was destined for an official career. He was educated at the college of Louis-le-Grand in Paris. In 1844 he published, in conjunction with Paul Bocage and Albert Aubert, a novel called "Le Grand Vieillard," which appeared in the "National" newspaper under the pen name of "Désiré Hasard." From that time he was a constant contributor of tales and sketches to the papers and periodicals. He wrote the novels of "Polichinelle" (1846), "Onesta" (1848), "Alix" (1848), "La Rédemption" (1849), "Bellah" (1850), "Le Cheveu blanc" (1852), and also vaudevilles in collaboration with his old school-fellow, Paul Bocage, besides "La Nuit terrible" (1846) and other comedies and farces for the Odéon and Palais Royale theatres, and the "Vieillesse de Richelieu," acted at the Théâtre Français in 1848. "Echec et mat" was the best of these pieces. He won no great reputation till "Le Cheveu blanc" was produced in 1853. The renown that this gave him was sustained by "Dalila," "Peril en la demeure," and other pieces. In 1858 he won the success of his life with "Le Roman d'un jeune homme pauvre," and the play founded on it, performed at the Vaudeville Theatre. Scarcely less popular was "Histoire de Sibylle." His refinement of style and propriety of sentiment won the admiration of the ladies, who crowded the hall to hear his address as Eugène Scribe's successor in the French Academy in 1862. In 1862 he was made an officer of the Legion of Honor, and soon afterward he was appointed librarian to the imperial residences, holding the office till September, 1870. The most noteworthy of Feuillet's dramatic productions not already named are "Le Pour et le contre," "Le Cas de conscience," "La Crise," "La Belle au bois dormant," "Le Sphinx," "Le Bourgeois de Rome," "Montjoie," "Le Village," "La Fée," "La Partie de dames," "Julie," the comic opera of "La Clé d'or," "La Tentation," and "L'Acrobate." "La Petite comtesse," a novel, was published two years before the "Romance of a Poor Young Man," which has been translated not only into English, but into nearly every modern language. He had long been recognized as one of the most brilliant writers for the "Revue des

deux mondes," then in its prime, and had produced light sketches admired by critics as the best products of his genius, before winning his great popularity with this pleasing novel. "Monsieur de Camors" (1867) and "Julie de Tréceur" (1872) are considered by many his master-pieces. His later novels are "Un Mariage dans le monde" (1875), "Le Journal d'une femme" (1878), "L'Histoire d'une Parisienne," "La Veuve," and "La Morte" (1886), the last of which had a remarkable success.

Franckenstein, Freiherr Georg Arbogast von und zu, a German politician, born in Würzburg, July 2, 1826; died in Munich, Jan. 22, 1890. He was the largest land owner in Bavaria, a nobleman greatly respected for his talents and character, the head of the Clerical party in the Bavarian Assembly, and joint leader with Windhorst of the Centrists in the German Reichstag. That diminutive statesman and the tall and handsome Franconian baron were inseparable companions in Berlin. Franckenstein was a member of the old *Zollparlament* and of the Reichstag from 1872. From 1879 till 1887 he was its first vice-president. His speeches were always brief and pithy. More conciliatory and moderate in his views than his colleague, he had shown latterly a leaning toward the National side, and for that reason received special attentions from the Emperor. More than once he smoothed away difficulties that arose between his party and the directing statesmen, and effected a compromise between the antagonistic views on the relations of church and state. He was one of the authors of the protective tariff system now in force in Germany, and was a supporter of the Government on the question of the military septennate and in its colonial policy.

Fransecky, Eduard Friedrich von, a German soldier, born in 1808; died in Wiesbaden, May 23, 1890. He commanded from 1860 to 1864 the Oldenburg brigade, and in 1866 distinguished himself by the way in which he handled the Magdeburg division at Königsgrätz, and by his vigorous defense of Sulpuwald, which enabled the Crown-Prince to throw his entire force with crushing effect on the Austrian army. In 1870 he rendered important services at Gravelotte. The guards of Napoleon III were conducted to Germany under his direction after the surrender of Metz. During the siege of Paris he commanded the German troops in Seine-et-Marne. Receiving orders in June to attack Bourbaki at the head of the right wing of the Army of the South, he succeeded in cutting off his communications with the South and in driving him into Switzerland. After the war Gen. Fransecky was appointed commander of the forces in the imperial province, and later Military Governor of Berlin, holding this place till he was retired in 1882. He had a great reputation as a tactician and military author, and edited works published by the general staff.

Frome, Edward Charles, an English military engineer, born at Gibraltar, Jan. 7, 1802; died in Ewell, Surrey, Feb. 12, 1890. He was graduated at the head of his class at the Royal Military Academy, received a commission in the Royal Engineers in 1825, and from 1827 till 1832 he surveyed and superintended the construction of the Rideau Canal in Canada and built fortifications at Kingston. After teaching at Woolwich and Chatham till 1839, he went to South Australia as surveyor-general, and conducted the triangulation of the whole colony, returning to England in 1849. He blasted away a part of the cliff at Seaford in 1850, was surveyor-general of Mauritius from 1851 till 1858, commanded the Royal Engineers in Scotland and in 1859-'62 in Ireland, was commanding engineer and senior officer at Gibraltar till 1865, was afterward inspector-general of fortifications, and then of engineers, and in 1874 and succeeding years was Governor of Guernsey. At the time of his death Gen. Frome held the appointment of colonel-commandant of the Royal Engineers.

Gade, Niels, a Danish musical composer, born in Copenhagen, Feb. 22, 1817; died there, Dec. 21, 1890. He became a successful player on the piano-forte and on the violin in his youth, and while a member of the

royal orchestra devoted himself to composition. With his overture called "Reminiscences of Ossian" in 1841 he obtained a prize. He received a purse from the King, spent the winter of 1843 with Mendelssohn in Leipzig, and took the latter's place as conductor of the orchestral concerts in the following year. Returning to Copenhagen in 1848, he became director of the Musical Union. From 1865 till his death he was first director of the Royal Conservatoire. Gade's musical compositions are numerous.

Gayarre, Julian, a Spanish singer, born in Navarre in 1850; died in Madrid, Jan. 2, 1890. He was a laborer's son, and was apprenticed to a locksmith in Lamplona, when his voice attracted the interest of Prof. Eslava, who took him to Madrid. He became first a comic singer, went on the operatic stage when he acquired facility in his art, became a favorite in Spain, and first attracted general notice in Europe when he sang in St. Petersburg. In Vienna, Rome, and Milan he was hailed as one of the greatest tenors of the time. By many he was regarded as the true successor of Mario. His dramatic talents were not of an equal order, yet he carried his parts well on the stage. He had true musical sensibilities, and was able to interpret Wagner as well as Meyerbeer and Verdi. In Spain his death was universally deplored, but most of all by the peasants of his native village whom he had made happy by his munificence.

Gelele, King of Dahomey, died about Jan. 1, 1890. He kept his country in a state of benighted barbarism and observed the old customs, including wholesale human sacrifices, notwithstanding his early education in France, where, in a school in Mar-sailles, he exhibited considerable intelligence and acquired the outer polish of refined manners. He was a conqueror who extended greatly the bounds of his empire. Protected by the marshy nature of the coast, he victoriously resisted the English expedition of 1852 and the French invasions of 1877 and 1883. Until 1863 he obtained a large revenue by selling slaves to traders from Brazil and other parts of America, and after the suppression of the traffic he increased the number of human sacrifices. His kingdom was ably administered and was one of the safest parts of Africa for foreigners to trade or live in.

Georg, Prince of Schwarzburg-Rudolstadt, born Nov. 23, 1838; died Jan. 19, 1890. His family is the younger branch of the house of Schwarzburg, which is descended from Johann Günther, who flourished in the first half of the seventeenth century. Prince Georg succeeded his father on Nov. 23, 1869, as ruler of the principality, one of the smallest of the German states. His own successor is his cousin, Prince Günther, born Aug. 21, 1852. Prince Georg had the rank of a general of cavalry in the Prussian army.

Gontaut-Biron, Viscount, a French diplomatist, born in Paris, Nov. 9, 1817; died June 4, 1890. He was descended from an old feudal family. Without ever having taken part in politics before, on Republican professions he was elected a Deputy in February, 1871. Nevertheless he voted with the Monarchical Right. In December, 1871, he was appointed minister at Berlin, where he negotiated for the early evacuation of French territory. On March 13, 1873, he was made Knight Grand Cross of the Legion of Honor. While still holding his diplomatic post, he was elected Senator for the Basses-Pyrénées in January, 1876. On Jan. 31, 1878, he was succeeded at Berlin by the Count de Saint-Vallier. Returning to France, he took his seat in the Senate on the Right.

Gresley, Henri X., a French soldier, born at Vassy in the Haute-Marne, Feb. 19, 1819; died in Paris, May 2, 1890. He entered the École Polytechnique in 1838, passed through the subordinate grades in the army, and at the beginning of the Franco-German War was a colonel. He was attached to the army of Châlons received the stars of a brigadier on Aug. 12, 1870, and on May 3, 1875 was promoted to the rank of a general of division. On Jan. 13, 1879, Gen. Gresley was called into the Cabinet to replace Gen. Goussier as Minister of War. He kept the portfolio till Dec. 28 of the

same year. On May 27 he had been elected a Senator for life. He was decorated with the grand cross of the Legion of Honor on Feb. 3, 1890.

Gull, Sir William, an English physician, born at Thorpe-de-Soken, Essex, in December, 1816; died in London, Jan. 29, 1890. He was the son of a boatman, was educated at Christ's Hospital, taught for a time, studied medicine at Guy's Hospital, was graduated in 1841, and remained in the hospital as a tutor and medical attendant. He was made lecturer on natural philosophy in 1843, and on physiology and comparative anatomy in 1845. In 1847 he became Professor of Physiology at the Royal Institution, and in 1848 lectured on paralysis before the Royal College of Physicians. He was appointed assistant physician, and consulting physician in course at Guy's Hospital. From 1856 till 1867 he was lecturer on medicine. For his care of the Prince of Wales during an attack of typhoid fever in 1871 he was made a baronet and physician extraordinary to the Queen. In 1887 he was appointed her physician in ordinary, but soon afterward received a stroke of paralysis, and has not since been able to practice. He made, with Dr. Baly, a report on cholera to the Royal College of Physicians and was the first to describe the disease since called myxœdema.

Hammond, Edmund, Lord, an English official, born in London in 1802; died there, April 29, 1890. He was educated at Eton, Harrow, and University College, Oxford, of which he became a fellow after taking his baccalaureate degree in 1823. Entering the civil service as a clerk in the office of the Privy Council after leaving the university, he was transferred in 1824 to the Foreign Office, in which he advanced gradually to the important post of Under-Secretary of State, which he held from April, 1854, till 1873, when he was retired on a pension. In 1866 he was sworn a member of the Privy Council. He was raised to the peerage in 1874 as Baron Hammond of Kirk Ella.

Hanoteau, Hector, a French painter, born in the Nièvre in 1823; died in Briey, April 9, 1890. He was a pupil of Giloux. His pictures appeared at the Salon for thirty-five years, and several times obtained medals. Two were purchased for the Luxembourg Museum. He was made a chevalier of the Legion of Honor in 1870. Hanoteau, without being a great or an original artist, was a landscape painter of merit, a sincere observer of nature, and thoroughly conscientious in the treatment of his subjects.

Hansner, Otto, an Austrian politician, born in Brody, in 1827; died in Vienna, Feb. 26, 1890. He studied medicine and other branches in Lemberg, Vienna, and Berlin, and subsequently agricultural science at Hohenheim, and settled in Galicia as a scientific farmer on a large scale. He became known as a writer on various subjects, but took no part in politics before 1870, when he entered the district council. In 1873 he took his seat in the Galician Diet, and in 1878 was sent to the Austrian Reichsrath. On Nov. 4, 1878, he achieved a reputation as an orator by his speech against the occupation of Bosnia, and for many years he was one of the most prominent members of the House of Deputies. To the last he was a chairman of the budget committee. In recent years he had acted with the Right entirely, and was the leader of the Polish group.

Hergenrother, Josef, a Bavarian prelate, born in Würzburg, Sept. 15, 1822; died in Rome, Oct. 12, 1890. He studied theology in Würzburg, Munich, and Rome, and was appointed Professor of Ecclesiastical History and Canon Law at Würzburg in 1852, having in the previous year published in Latin a volume on the origin of the Catholic Church to refute Protestant views. In 1860 he won the admiration and gratitude of Catholics by his work on the Papal state from the time of the French revolution. The charge that the Popes were responsible for the Greek schism he attempted to rebut in a treatise on Greek documents relating to Photius and his history, published in 1869, and seven years later he published in German a historical biography of the Patriarch Photius of Con-

antinople, with an account of his writings and of the Greek schism. When Döllinger launched his famous tract against the Ecumenical Council of the Vatican, Dr. Hergenröther was selected to answer it, which he did in "Anti-Janus" (1870), translated into English by James B. Robertson, and in a more sober treatise on the Catholic Church and the Christian state in their historical development and their relations to the questions of the present time (1872), which was translated into English and Italian. He was one of the ecclesiastics who were intrusted in Germany with the preliminary arrangements for the summoning of the Vatican Council for affirming the doctrine of Papal infallibility. Among his other publications are a biography of Cardinal Maury (Würzburg, 1878) and a manual of Church history (Freiburg, 1876-'80). On May 12, 1879, Dr. Hergenröther was created a cardinal deacon, and at the time of his death he held the office of prefect of the apostolic archives.

Huddleston, John Walter, an English jurist, born in Dublin in 1817; died in London, Dec. 5, 1890. He was the son of a sea captain, studied at Trinity College, Dublin, became a teacher in England and afterward a criminal lawyer, being called to the bar in 1839. After several unsuccessful attempts he obtained a seat in Parliament for Canterbury in 1865, which he lost at the next election. He was again successful in 1873, having meanwhile married the sister of the Duke of St. Albans. Being one of the most adroit and successful lawyers of his time, he was employed in many celebrated cases. In 1875 he was made a judge of common pleas, and a few months later a baron of the exchequer. As a judge he betrayed strong opinions of his own, and by his charges influenced and almost directed the findings of juries, notably in the famous art trial of *Belt & Laves*.

Johann, Archduke, an Austrian prince, born in Florence, Nov. 25, 1852; died at sea in August, 1890. He was a son of Leopold II, Grand Duke of Tuscany, who abdicated in 1859, and the youngest brother of Ferdinand IV, who was deposed by Vittorio Emanuele in the following year. Desiring to follow a useful occupation and to marry a woman of ordinary station, he asked permission of the Emperor to enter the English merchant service, renounced all his titles and prerogatives on Oct. 16, 1889, took the name of John Orth, chartered a ship, and sailed from Hamburg with a cargo for La Plata. He was there joined by his wife. Leaving the captain ashore because he was ill, and discharging the second mate, he undertook to navigate the vessel alone around Cape Horn to Valparaiso. The weather was exceptionally stormy and, although his vessel, the "St. Margaret," was one of the best sailing vessels in the Austro-Hungarian merchant service and was manned by a picked crew, she probably foundered in a hurricane off Cape Horn.

Kane, Sir Robert, an Irish educator, born in Dublin in 1810; died in London, Feb. 16, 1890. He was the son of a manufacturer of chemicals, and was educated as a physician. In 1831 he was made Professor of Chemistry to Apothecaries' Hall, and in 1832 he founded the "Dublin Journal of Medical Science," which he conducted for two years. From 1834 till 1847 he was Professor of Natural Philosophy to the Royal Society of Dublin, and in 1841 he was chosen a member of the council of the Royal Irish Academy, of which he was made secretary, serving until he was appointed President of Queen's College, Cork. In 1843 Dr. Kane delivered a series of lectures, afterward published in a volume, on "The Industrial Resources of Ireland," and his suggestions for the establishment of a Museum of Industry in Dublin were carried out in 1846, and he was made director. He was knighted in the same year, and served as a member of the Irish Relief Commission. He resigned the presidency of Queen's College and the directorship of the museum in 1873, was elected a member of the council of the University of Dublin in 1875 and President of the Royal Irish Academy in 1876, and in 1880 was appointed a member of the senate of the Royal University of Ireland

and of the Board of National Education. Dr. Kane's principal published work was "Elements of Chemistry" (1842). He received the medal of the Royal Society of London in 1840 for researches on the coloring matter of lichens, and in 1845 was commissioned, with Lindley and Playfair, to investigate the causes of the potato blight.

Karr, Alphonse, a French author, born in Paris, France, Nov. 24, 1808; died in Nice, Sept. 28, 1890. His father, German by birth, but a citizen of France, was his first instructor. He studied at the Collège Bourbon, in which he became a teacher, but lost his place because he read Rousseau and Voltaire to his classes. He became then a writer on the "Figaro," to which he had contributed verses. His novel "Sous les tilleuls," published in 1832, made him popular at once. It was followed by "Une heure trop tard" (1833), "Vendredi soir" (1835), "Le chemin le plus court" (1836), "Einerley" (1838), "Geneviève" (1838), and many other books. He became editor-in-chief of the "Figaro" in 1839, and founded in the same year a satirical monthly called "Les Guepes," which had a great success. The "Voyage autour de mon jardin," appeared in 1845. In that year he was made a chevalier of the Legion of Honor. The revolution of 1848 filled him with disgust for politics and gave him a desire to retire into seclusion, which he followed soon afterward, taking up his residence at Nice. The wit and gaiety that made him a man of mark in Parisian society enlivened the town that he chose for his retreat and helped to make it attractive to strangers. As business and pastime combined he followed the pursuit of floriculture, in which he had been interested as an amateur. He introduced several new varieties that bear his name, improved and spread the cultivation of the Riviera roses, and gave the impetus to the gardener's art that has done more than anything else to make the district attractive. When the stir and gaiety that he had done much to stimulate became distasteful, he retired to a quiet home in a bower of roses and semi-tropical plants at St. Raphael, where he entertained his literary friends in the winter time. The people of Nice regarded him as the founder of their prosperity, and at his funeral all the public bodies of the district and large numbers of the citizens were present. He contributed occasionally to the "Revue des deux mondes" and other periodicals till within a few years of his death. His daughter Thérèse is the author of numerous books.

Khalifah-ben-Said, Seyyid of Zanzibar, born in 1847; died in Zanzibar, Feb. 12, 1890. He was a descendant of the dynasty that for more than a century exercised a cruel dominion over Muscat, Zanzibar, and the region between the coast and Lake Tanganyika. The influence and pressure of Sir John Kirk induced his brother and predecessor to assist Livingstone and Stanley and to abolish the export trade in slaves from Zanzibar. Khalifah, who succeeded Bargash-ben-Said on March 27, 1883, recognized the hopelessness of resisting European demands. He confirmed the treaties for the suppression of the slave trade and even decreed the abolition of domestic slavery and gave his approval to the objects of the Brussels International Anti-Slavery Conference, where he was represented by Sir John Kirk. The lease of the coast stations to the Germans, English, and Italians, and their occupation of the great territories once held by the soldiers of the Sultan of Zanzibar he had no means of opposing, and although his customs revenues were greatly diminished by the contract, as it was interpreted by the German East Africa Company, he was constrained to assent to the cession of the coast territories and to an English protectorate over Zanzibar and Pemba. His death was so sudden that foreigners suspected murder, but the Arabs would allow no *post-mortem* examination.

Knebel von Trauenschwert, Baron, an Austrian soldier, born about 1815; died Nov. 25, 1890. He entered the military service in 1833. He commanded a brigade in the campaign of 1866, and in the engagement at Trautenau he captured the heights of St.

Johann This was the only victory won over the Prussians, and for the exploit he was decorated with the Maria Theresa order, which is only given to victorious generals. For many years Baron Knebel, who was promoted to the rank of *Feldzeugmeister* in 1883, was president of the supreme military court, retiring in 1889. He was esteemed for his learning and his high character and sense of military duty, and was frequently called on to arbitrate on affairs of honor that arose between officers.

Lachner, Franz, a German composer, born in Rain, April 2, 1803; died in Munich, Jan. 20, 1890. He was the son of an organist and organ builder, and learned to play various instruments at the seminary of Neuburg, while preparing himself for a theological course. Determined to be a musician, he went to Munich with his early musical compositions, which he was unable to sell, and supported himself by giving lessons and playing in an orchestra. Going to Vienna he won the place of organist in the Protestant church against thirty competitors, became leader of the orchestra in one of the chief theatres, and in 1828 brought out his opera "Die Bürgschaft in Pest." In 1831 he went to Mannheim as chapelmaster and re-generated the orchestra, which he handed over to his brother in 1836 to take the place of leader of the orchestra in the Court Theatre at Munich. His opera of "Alida" was produced in 1839; "Catharina Cornaro," which has had a lasting success, in 1842; and "Benvenuto Cellini" in 1849. Lachner introduced discipline and system in the Munich opera, and was one of the ablest musical directors of his time. His compositions were treated with disdain by Robert Schumann and other North German critics, whom the tone of the popular South German music that pervades them offended as lacking refinement and classical elevation. He, for his part, was not drawn toward the new music, although he attempted to give the overture to "Tannhäuser" as early as 1850, and in 1856 and 1858 contributed all that he could to the performance of that opera and of "Lohengrin." Through Wagner's influence he was retired in 1867. For musical festivals at Munich in 1856 and 1863, at Nuremberg in 1861, and at the Mozart centennial in Salzburg, he trained and conducted monster orchestras and choirs of male voices. Lachner composed a great number of songs, some of which are often heard in concerts. He wrote an oratorio, "Moses," the cantata of "The Four Ages," much interesting music for the organ, and church music of value in variety, especially masses, requiems, psalms, and anthems. He was a master of counterpoint and orchestration, and was most successful in instrumental compositions, and especially in the revived form of the orchestral *suite*. Of his eight symphonies the "Sinfonia appassionata" and the one in G minor are particularly fine. His trios, quartettes, quintettes, and other forms of chamber music are much appreciated.

Lamington, Alexander Dundas Ross Wishard Baillie Cochrane, Baron, an English author and politician, born in November, 1816; died in London, Feb. 15, 1890. He was the eldest son of Admiral Sir Thomas John Cochrane, and was educated at Eton School and Trinity College, Cambridge. He won a reputation for talents and accomplishments before he left the university, and became with Lord Strangford and Lord John Manners one of the leaders of the Young England party. In 1841 he was elected as a Conservative member of Parliament for Bridport, which he represented till 1846 and again in 1847-52. In 1859 he was returned for Honiton, sitting for that borough till 1864, and in 1870 he was elected for the Isle of Wight to fill a vacancy. In the House of Commons he was a frequent speaker, oftenest on foreign politics, and especially on subjects connected with Greece or Italy, two countries with which he was familiarly acquainted. He was a prominent member, yet he never held office, for although an ardent Conservative in principle, he held independent opinions on various subjects that he would never suppress for the sake of party discipline. Lord Palmerston's policy he at-

tacked savagely without gaining any political credit. In a pamphlet entitled "Justice for Scotland" he advocated a degree of autonomy like that demanded by Home Rulers for Ireland. After he was made a peer in 1880 he took no active part in politics. He was the author of a volume of privately printed "Poems" (1838); "Exeter Hall, or Church Polemics" (1841); the poem of "Morea"; "The State of Greece" (1847); "Ernest Vane," a novel of contemporary life (1849); "Florence the Beautiful" (1854); "The Map of Italy" (1856); "Young Italy," an unfriendly view of the Italian revolutionary movement; "Historic Pictures" (1865); "Francis the First, and other Historic Studies" (1870); and "The Théâtre Français in the Reign of Louis XV" (1879). He published also a great number of political pamphlets, and shortly before his death he contributed a series of papers containing anecdotal reminiscences to "Blackwood's Magazine" under the title "In the Days of the Dandies."

Liddon, Henry Parry, an English divine, born in Taunton, Aug. 20, 1829; died in Weston-super-Mare, Sept. 9, 1890. He received his early education in King's College, a school founded on Church of England principles, became a student of Christ Church, Oxford, in 1847, took his degree in 1850, obtained a theological scholarship, and in 1852 was ordained deacon. From 1854 till 1859 he was vice-principal of Cuddesdon College, which Bishop Wilberforce had founded as a preparatory seminary for the Church, and to him the character and success of the college were due in a large measure. He studied as his masters the great Protestant preachers of France, and soon became known as a preacher possessing a new and original style in which argument was combined with persuasive art, and his rhetorical devices, heightened by the sympathetic tones of his voice and his fervid and insinuating eloquence, were cloaked behind the idiomatic simplicity of his diction. The church was crowded when he was appointed select preacher to the University in 1863, and he was already famous when in 1864 he was made a prebendary in Salisbury Cathedral. At Oxford Liddon was a follower of the Tractarians and the chosen disciple of Dr. Pusey. In 1866 he delivered the Bampton Lectures, and by his discourses on "The Divinity of Our Lord and Saviour Jesus Christ" he achieved a fame that rang through the English-speaking part of the world. He attempted to meet Strauss, Baur, Renan, and the other assailants of Christianity on their own ground and refute them by scientific tests and learned criticism equal to their own, and in his convincing style he presented the orthodox case from the English High Church point of view. In Oxford politics he held to the extreme ecclesiastical ideas of Dr. Pusey, but in the politics of the country he was an outspoken Liberal. He was appointed Ireland Professor of Exegesis in 1870, and lectured for twelve years. He delivered the Lent lectures at St. James's Church in Piccadilly, afterward published under the title of "Some Elements of Religion." In 1870 he was appointed Canon Residentiary of St. Paul's, and his sermons there delivered in June and December of every year attracted immense congregations. Before popular audiences he adopted a more popular style without abandoning his dialectical method, and he is said to have been the only modern preacher who could hold the attention of an uncultured audience by argumentative sermons of an hour's length or more. In the conflict that arose between the Ritualists and the civil authorities he publicly counseled passive resistance to the decisions of the courts. He took a strong interest in the Old Catholic movement in Germany, and published a report of the congress at Bonn in 1875. When the Bulgarian troubles arose, his sympathy with the Greek Christians impelled him to espouse their cause with a vehemence that strongly influenced English popular opinion and the attitude of Mr. Gladstone. People more familiar with Turkish customs were unable to dispel the impression produced by his mistaken assertion that he had seen im-

paled Christians from the deck of a steamer on the Danube. His Easter sermons in 1855 brought Dr. Liddon more clearly into view as the leading representative of the High Anglican party in the English Church. Besides the series of sermons mentioned above, which have passed through many editions, Canon Liddon published: "Walter Kerr Hamilton, Bishop of Salisbury" (1869); "Sermons preached before the University of Oxford," the fifth edition of which was issued in 1873; an edition of Bishop Andrews's "Manual for the Sick"; "English Church Defense Tracts," in conjunction with Dr. William Bright (1872); a discourse on Bishop Wilberforce (1875); sermons on "Present Church Troubles" (1880); sermons entitled "Advent in St. Paul's" (1888); and a preface to a translation of Thomas à Kempis (1889). For several years before his death he was at work on a biography of Dr. Pusey.

Lloyd, Edward, an English journalist, born at Thornton Heath, near Croydon, Feb. 16, 1815; died in London, April 8, 1890. He learned stenography and published a manual on the subject when he was sixteen years old. Soon he established "Lloyd's Weekly Miscellany" and "Lloyd's Weekly Atlas," depending for their sale mainly on fiction, which were profitable and were the precursors of the "Family Herald" and other popular periodicals still in existence. He had success with a cheap monthly newspaper until it was stopped by the authorities under the stamp law. In 1842 he issued a penny illustrated newspaper in which literary notices, theatrical reports, and social gossip were made the conspicuous features, and the news items were compressed within limits that were supposed to escape infringing the law. A month or two later, on Nov. 27, 1842, appeared "Lloyd's Weekly Newspaper," duly stamped and sold for 2d. Douglas Jerrold became editor when the paper had been established nearly ten years. The price was reduced to 1d. as a demonstration against the stamp duty before the duty was removed. The paper has always been one of the favorite organs of the British democracy and the most extensively circulated of any. About 1875 Lloyd purchased the "Clerkenwell News," which he converted into one of the important London dailies, the "Chronicle." He established a large business as a paper maker.

Lucas, Charles, a French philanthropist, born in 1803; died in January, 1890. He was educated for the bar, and became a very successful advocate. Guizot appointed him inspector of prisons in the Department of the Seine and subsequently of all the prisons of France, in which he introduced important reforms. The juvenile reformatory and farm that he had established in 1833, with private means, in the Val-d'Yèvre, near Bourges, was so successful that eventually it was made a state institution. He also founded in Paris a society for the reclamation of juvenile offenders. He was admitted in 1836 to the Institute of France, of which he was the oldest member at the time of his decease. He wrote many pamphlets and books on the subject of prison reform and in favor of the abolition of capital punishment, and continued his activity to the end of his days, although for years he was entirely blind. His most important work was a treatise in three volumes on prison systems in Europe and the United States.

Lutz, Baron Johann von, a Bavarian statesman, born in 1826; died in Munich, Sept. 3, 1890. He was the son of a country schoolmaster. After completing his legal studies at Würzburg, he was appointed an assistant judge at Nuremberg in 1854. In 1857 he acted as secretary to the conference held in Nuremberg for framing a code of commercial laws for the German states, and afterward he assisted in the preparation of a maritime code at Hamburg. When this was completed he was given a post in the Bavarian Ministry of Justice, and in 1863 was appointed secretary to the King's Cabinet. King Ludwig in 1866 made him chief of his private cabinet. In 1867 he was appointed Minister of Justice and

carried through a new code of civil procedure in spite of serious difficulties. He held other portfolios in succession, and finally became Prime Minister, with the portfolio of Worship and Education. During the long struggle for secular education he held fast to the policy adopted in Prussia, although the Clericals sometimes had a majority in the Chamber. Only a few weeks before his death he retired on the ostensible ground of failing health, and was replaced by a minister in sympathy with the Clerical reaction.

Mackay, Alexander M., British missionary, born in Ventnor, Isle of Wight, about 1850; died in East Africa in March, 1890. He was a son of the Rev. Dr. Mackay, a retired minister of the Scottish Presbyterian Church and author of a "Manual of Modern Geography." He was educated as a mechanical engineer, studying in Berlin, and in April, 1876, went to East Africa with the first party of missionaries sent out by the English Church Missionary Society. Going to Uganda, he obtained the confidence of King Mtesa, and carried on a propaganda that resulted in the conversion of hundreds to Christianity. Reducing the language of the natives to writing, he translated parts of the Bible and prayers, and printed thousands of copies for the instruction of the people. When Mwanga succeeded as king, Mr. Mackay was no less in favor than under his predecessor. He built houses and boats, and performed all kinds of commissions for the native ruler. He sent, in October, 1886, the first news that Emin Pasha was still alive, and also the recovered manuscript of Bishop Hannington's diary. When King Mwanga was overthrown by the revolution of October, 1888, and in consequence of the Mohammedan reaction all Christian missionaries were expelled from Uganda, Mackay established a station south of Victoria Nyanza, where he gave a hospitable reception to Henry M. Stanley and his expedition on their march from Albert Nyanza to the sea in September, 1889.

Mallet, Sir Louis, an English statesman, born in London, March 14, 1823; died in Bath, Feb. 15, 1890. He was the grandson of Mallet du Pan, a celebrated French journalist who became an exile after the revolution. He was educated privately, entered the Audit Office in 1839, was transferred to the Board of Trade in 1847, and became secretary to the president, Mr. Labouchere, afterward Lord Taunton. His elegant literary style combined with expert knowledge in finance and economical matters attracted Cobden's notice, and in 1860 he was sent to France to sign the commercial treaty and arrange a tariff. In 1865 he went to Vienna and negotiated the details of a commercial convention with Austria. He was knighted in 1868 after his return, retired from the Board of Trade in 1872, and was appointed a member of the Indian Council. From 1874 till 1883 he was permanent Under-Secretary of State for India. In common with most Anglo-Indians, he was an advocate of bi-metallicism, and he favored the employment of natives in the lower branches of the civil service of India.

Manisty, Sir Henry, an English jurist, born in Edlingham, Northumberland, in 1805; died in London, Jan. 31, 1890. He was a son of the vicar of Edlingham, was educated at Durham grammar school, and practised as a solicitor from 1831 till 1845, when he was called to the bar. He became a Queen's counsel in 1857, and in 1876 was appointed a justice of the Queen's Bench, and was knighted, after long enjoying the reputation of a sound and able lawyer having an exceptional knowledge of procedure and the practical and technical difficulties of the law.

Marston, Westland, an English dramatist, born in Boston, Lincolnshire, Jan. 30, 1819; died in London, Jan. 8, 1890. In 1842 he published "Gerold, a Dramatic Poem, and other Poems." He studied law in the office of his uncle, a London solicitor, but deserted that profession for literature, writing first a tragedy, entitled "The Patrician's Daughter," that was published in 1841. "The Heart and the World," another drama, appeared in 1847; the tragedy of "Strath-

more" in 1849; and "Ann Blake," a play, in 1852. Subsequently he wrote "Philip of France," a tragedy; the play called "A Life's Ransom"; the comic drama of "Borough Politics"; and "A Hard Struggle," a dramatic sketch in one act. "Trevanion, or the False Position," was in part his work. His novel of "A Lady in her Own Right" appeared in 1860, and a collection of his contributions in fiction to the magazines in 1861, under the title of "Family Credit, and other Tales." Chief among his later dramatic works are "Pure Gold," a play in four acts; the two-act drama of "The Wife's Portrait"; "Donna Diana," a comedy adapted from a German original; "The Favorite of Fortune," which was produced at the Haymarket Theatre in 1886; "A Hero of Romance," taken from a French source; "Life for Life," a drama in blank verse; and "Under Fire," which was played in 1886 at the Vaudeville Theatre. He was associate editor of the "National Magazine," in which and in the "Athenaeum" and other periodicals he published animated lyric poems, the most noted of which is "The Death Ride at Balacava." His death followed soon after that of his blind son, Philip Bourke Marston, more famous as a poet than himself.

Matsudaira, a Japanese statesman, died in July, 1890. He was feudal chief of Echizen, one of the most powerful of the great nobles, and before the revolution the adviser of the Shogun. In 1861 he and the Regent Ii Kamu no Kami had a conflict regarding the choice of a successor to the throne, and engaged in open hostilities which resulted in the temporary triumph of Ii and the retirement from court of Matsudaira and other chiefs. When the Regent was assassinated shortly afterward outside the Sakurada gate of the Shogun's palace, Matsudaira returned from his flight on the west coast and resumed his place as guardian of the Shogun, his nominee, Tokugawa Keiki being placed on the throne. The civil disturbances continued, and finally Keiki resigned his powers into the hands of the Mikado after a revolution that Matsudaira vainly strove to bring to an end without effusion of blood. Under the new régime he became for a time Minister of the Interior and of Finance. Subsequently he retired to his estates, and lived to be almost the only survivor of the mighty Daimios who ruled Japan in the times anterior to the restoration of the mikados.

Molesworth, William Nassau, an English author, born in Millbrook, near Southampton, Nov. 8, 1816; died Dec. 19, 1890. He was the son of a clergyman, was educated at St. John's and Pembroke Colleges, Cambridge, took his degree of bachelor in 1839, entered the Church and became incumbent of St. Andrew's, Manchester, in 1841, and vicar of Spot and Rochdale in 1844. He published "An Essay on the Religious Importance of Secular Instruction" (1857); "England and France," a prize essay on the advantages of a close alliance (1860); "A History of the Reform Bill of 1832" (1864); "A New System of Moral Philosophy" (1867); "Prize Essay on Education" (1867); "History of England from 1832" (1871-'73); and "History of the Church of England from 1660" (1882). He was a strong advocate of co-operation at a time when the movement was very unpopular, and has been earnest in his efforts to advance various other social reforms.

Montpensier, Antoine Marie Philippe Louis d'Orléans, Duc de, born at Neuilly, July 31, 1824; died in San Lucan, Andalusia, Feb. 4, 1890. He was the fifth son of King Louis Philippe, born while his father was still Duke of Orleans, was educated at the Collège Henri IV, and entered the artillery as a lieutenant in 1842. In 1844 he was ordered to Algeria, where he took part in the expedition against Biskaya, and received a wound in the Ziban campaign. For his bravery he was made a major and an officer of the Legion of Honor. After serving with distinction in the campaign against the Kabyles, he made a tour through Egypt, Syria, and Greece. Guizot, the French Minister of Foreign Affairs, had given assurances that none of the sons of Louis Philippe was to be a suitor

for the hand of the young Queen Isabella of Spain, or of her sister, the Infanta Maria Louisa Ferdinande, but suspecting a trick of Lord Palmerston to put forward the claims of Prince Leopold of Saxe-Coburg, he hastily concluded a secret arrangement by which the Duc de Montpensier married the Infanta at Madrid on Oct. 10, 1846, and the Queen became the wife of her cousin Don Francis of Assisi. England protested against the Spanish marriages and threatened to make war on France without being able to prevent the consummation of the arrangement. Louis Philippe and his minister calculated on the crown's falling to a child of the Duc de Montpensier, thinking it impossible for Don Francisco to beget children. In this they were disappointed, for the Queen had issue, Alfonso, who became King. Montpensier, after the revolution of 1848 left France, and eventually settled at Seville. He received the title of Infante, and was made captain-general of the Spanish army in 1859, resigning when he left Spain at the request of the minister during the commotion that resulted in the Queen's flight. He returned under the Provisional Government, and became a candidate for the vacant throne in 1868, his claims being pressed by Admiral Topete and other politicians. One of his rivals was his cousin Don Enrique de Bourbon, the brother of the Queen's husband, with whom he had an old feud. Don Enrique, in a letter requesting reinstatement in the navy, alluded in such bitter and sarcastic terms to Montpensier and his adherents that the latter, although by nature cautious and reserved, was provoked into sending a challenge. The cousins met on March 12, 1870, on the artillery ground near Madrid. The Infante Enrique first fired into the air, and the Duc de Montpensier followed his example. At the second shot Enrique's passed near Montpensier's ear, and the latter took deliberate aim, slivering the butt of his antagonist's pistol. Both fired in earnest the next time, Montpensier escaping unhurt, and then coolly shooting his adversary in the head. The nervous revulsion after the tragedy made him ill. His chances for the throne were ruined, for a popular outcry was raised against the foreigner who had killed a Spanish prince, his competitor. After the restoration of the monarchy the Duc de Montpensier took little part in public affairs. His eldest daughter became the wife of her cousin, the Comte de Paris, on May 30, 1864, and his third daughter, Maria de las Mercedes, married King Alfonso of Spain. She speedily gained the affections of the Spanish people and caused for the time her father's unpopularity to be forgotten, but died leaving no child. His only surviving son, Prince Antoine, married, in 1886, the Infanta Eulalie.

Moufang, Christoph, a German ecclesiastic and politician, born in Mayence in 1817; died there, Feb. 27, 1890. He studied medicine and afterward theology at Bonn and Munich, and prepared himself for the priesthood in the seminary of his native diocese, in which he became Professor of Moral Philosophy and of Homiletics. His life was divided between ecclesiastical administration, as canon and, after the death of Bishop Ketteler, as capitular vicar, and the politico-religious conflicts in the German Reichstag, of which he was a member from 1871 till the last election before his death. As the faithful lieutenant of Bishop Ketteler, he labored to bring about an alliance between the Clerical and Social-Democratic parties.

Mougel Bey, a French engineer, born in 1808; died in Paris early in December, 1890. He was educated in the Ecole Polytechnique, took part in the revolution of 1830, and afterward went to Egypt, where he had charge of harbor improvements at Alexandria. He suggested the plan of building a dam across the Nile for the irrigation of the delta at low water, and was commissioned to carry out his project. Before he had completed the *barrage* a new Khedive came to the throne, and the work was stopped. Mougel afterward superintended the construction of the Suez Canal. When Sir C. S. Monierff determined to complete the *barrage* he called Mougel into consultation. (See EGYPT.)

Napier, Sir Robert Cornelis, Lord Napier of Magdala, a British soldier, born in Ceylon in 1810; died in London, Jan. 14, 1890. He was the son of a major of artillery, was educated in the Military College at Addiscombe, and in December, 1826, received his commission as 2d lieutenant in the Bengal Engineers. In India he found plenty of employment and gained a high reputation as an engineer. He had charge of the construction of the Umballa barracks, was commissioned major in 1841, assisted in organizing the Lawrence Asylums for the children of British soldiers, and was promoted major for distinguished services in the Sutlej campaign. Sir Henry Lawrence selected him for the post of engineer to the Durbar of Lahore, giving him the opportunity to become familiar with the Punjab. He acted as chief engineer at both the sieges of Mooltan, where he was severely wounded. After the capture of the place he went with the expedition to re-entrench Lord Gough, and at the siege of Gojerat he acted as commanding engineer to the right wing. He was also present at the surrender of the Sikh army. Returning to his duties as chief engineer to the Administration of the Punjab, he carried out his cherished plan of building a network of military roads that would serve also as commercial highways. He built canals to irrigate the Doab district, and erected the barracks and public buildings necessary for the efficient administration of the country. This was the work of several years, at the end of which he was called to Calcutta to undertake the duties of Chief Engineer of Bengal, having been promoted colonel. During the mutiny of 1857 he served as chief of staff to Sir John Outram during the operations for the relief of Lucknow, and by throwing a pontoon bridge across the Goomtee river he enabled the British troops to get at the enemy. The operations throughout were conducted largely according to his suggestions. The force sent against Tantia Topsee was placed under his command, but Sir Hugh Rose, as ranking officer, superseded him and gained the credit of the defeat of the rebels. He commanded, with the rank of brigadier-general, at the victorious engagement of Joura Alipore, which he followed up by reducing the fort of Powree. After Gwalior was captured he engaged in the pursuit of Tantia Topsee. For his services he was knighted. In 1860 he went to China as second in command under Sir Hope Grant, and conducted the operations at the taking of the Taku forts, where he commanded in person and was struck five times. For his services he was made a major-general. He was also appointed to succeed Outram as a military member of the Indian Council, resigning in January, 1865, when he was made commander-in-chief at Bombay. In 1867 he was intrusted with the command of the expedition sent to rescue the British envoys held as prisoners by King Theodore of Abyssinia and to chastise the Negus for his insult. On April 10, 1868, he defeated on the heights of Islamigie the army of the King, who released the captives soon afterward and retreated to the fortress of Magdala, which he supposed impregnable, but Napier stormed it on April 13, and Theodore in despair committed suicide. After aiding Johannes, Theodore's rival and successor, to establish his authority, the British force was withdrawn. The successful commander was created Baron Napier of Magdala, and an annuity of £2,000 was granted to him and his next heir. In January, 1870, he was appointed commander-in-chief of the forces in India. This post he held for the customary term of five years. On his return to England he was appointed Governor and Military Commander at Gibraltar, retiring in 1882, when he was made a field-marshal. In 1886 he received the appointment of high constable of the Tower. When the difficulty with Russia in 1878 seemed likely to result in war, Lord Napier was selected by the Government to be the commander-in-chief of the British field force.

Nasmyth, James, English mechanical engineer, born in Tweeddale, Scotland, in 1808; died in London, England, May 7, 1890. Evincing early a taste for

mechanical pursuits, he became an assistant in the private workshop of Maudsley, in London, in 1829, after finishing his education in Edinburgh under the direction of his father, Alexander Nasmyth, the artist. When Mr. Maudsley died in 1831 Nasmyth returned to Edinburgh, made himself a set of engineering tools, and in 1834 began business in Manchester. As the business grew he built his workshops in the suburb of Patricroft. The Great Western Railroad requiring apparatus for forging a shaft thirty inches in diameter, Nasmyth invented the steam hammer bearing his name, which, while capable of the most ponderous work, is so delicately adjusted that it can crack a nut. At the age of forty-eight Mr. Nasmyth retired from business, and thenceforth gave much time to astronomy, publishing, with Dr. Carpenter, of Greenwich Observatory, the most important English work on the moon.

Normanby, George Augustus Constantine Phipps, Marquis of, an English administrator, born July 23, 1819; died in April, 1890. He sat in Parliament as Lord Mulgrave for Scarborough in 1847-51 and 1852-57, voting with the Liberals, was Treasurer of the Queen's Household for some years, and was appointed Governor of Nova Scotia in 1858, resigning in 1863, when he succeeded to his father's title. On April 6, 1871, he was appointed Governor of Queensland, whence he was transferred to New Zealand in 1874, and in December, 1878, he became Governor of Victoria, returning to England in 1884.

North, Marianne, an English artist and botanist, born in Hastings in 1830; died in Gloucestershire early in September, 1890. She was a daughter of Frederick North, a member of Parliament, who took her with him on his travels and resided with her two years in Egypt, Palestine, and Syria. Adopting painting as a profession after her father's death, she executed a large number of landscapes in Sicily in 1869-70; then traveled for a year in Canada, the United States, and Jamaica, making drawings of the flora of those countries; went next to Brazil to sketch its plant life; and afterward did the same for Tenerife, India, and Ceylon. In November, 1877, she sailed again for India, and made more than 700 paintings of vegetable forms, which, on her return at the end of two years, she presented to the nation, and built at her own expense a gallery for them at Kew. Visiting South Africa in 1882, she sent 60 new paintings to the gallery, which are highly esteemed by botanists. Next she sketched the peculiar plants and trees of the Seychelles Islands, and visited later California, Borneo, Java, Australia, and New Zealand. A journey that she made to South America in pursuit of her scientific and artistic studies brought upon her a weakening malady from which she died.

Nussbaum, Johann Nepomuk, a German surgeon, born in Munich, Sept. 2, 1829; died there, Oct. 31, 1890. He was the son of a Bavarian official and studied medicine in Munich. He became assistant in Dr. von Rohlmann's clinic, and in 1853, after successful experiments with rabbits, published a paper on infusing a glass cornea in diseased eyes. This operation he never succeeded in performing with perfect results, although he returned to it after his first disappointment and made it the subject, in 1857, of his inaugural lecture as privat-docent. Meanwhile he had studied in Würzburg, Berlin, and Paris, and won reputation as an operating surgeon. On Jan. 6, 1860, he was made Professor of Surgery and Diseases of the Eye. The latter branch he soon relinquished. In 1862 he introduced the mistaken operation of forcibly bending lamed joints. In the orthopedic and children's hospitals in Munich he performed countless operations. Going to London to learn ovariotomy from Spencer Wells, he made it known in Munich. The adoption and improvement of antiseptic methods were largely due to him. In 1870 he was chief surgeon to the Bavarian army. His published works on the Listerian treatment of gunshot wounds and others relating to antiseptic surgery, and in 1880 a practical work of great value on abdominal injuries.

Pallotti, Luigi, an Italian prelate, born in 1829; died in Rome, July 31, 1890. He was nominated a cardinal deacon by Leo XIII in 1887, and was appointed prefect of the Papal Segnatura.

Parker, William Kitchen, an English naturalist, born in Lincolnshire in 1823; died in Cardiff, July 3, 1890. He was the son of a farmer, and had no early educational advantages, but was attracted to the study of the anatomical structure of animals and of plants. Continuing his observations while a druggist's clerk and a surgeon's assistant, he became assistant to Prof. Todd in King's College, obtained a medical diploma in 1849, and engaged in practice while still engrossed in original scientific work. In 1857 he began to publish, in conjunction with Prof. Rupert Jones, a series of papers in the "Annals and Magazine of Natural History" on the parallel polymorphism of the species of foraminifera. Between 1869 and 1874, when he was appointed Professor of Comparative Anatomy in the Royal College of Surgeons, he published monographs on the skulls of the chicken, the frog, the salmon, and the pig. The Royal, Zoological, and Linnean societies published more than 20 memoirs that were illustrated by many hundred plates from his drawings, but his style of exposition renders them unintelligible to the lay reader. A part of his work, made more lucid with the help of his friend G. T. Bettany, was published under the title of "Morphology of Skulls" (London, 1877). His Hunterian lectures for 1884 on "Mammalian Descent" were also printed in a volume (1885).

Pasi, Count Raffaele, an Italian soldier, born in Faenza, Dec. 19, 1819; died in Rome, Jan. 7, 1890. He was a follower of Mazzini in his youth, and when scarcely twenty years old fought in the Tuscan civic guard against the Papal soldiery. After two months of imprisonment he escaped to France, and was condemned to death in *contumaciam*. In 1848 he returned, raised a battalion of students and other patriots, and on the field of Vicenza performed marvels of bravery. Through the influence of Cavour he adopted monarchical views and entered the regular Piedmontese service. In the campaigns of 1859 and 1860 he went into every fight at the head of his troops and showed an utter contempt for death. In 1866 he saved the Italian army at Custoza from a disastrous rout by attacking the enemy with his regiment of infantry with such impetuosity that they were brought to a halt long enough for the Italian center to reform and retreat in good order. Two thirds of his regiment were killed, and yet with the remnant he covered the retreat, supporting several attacks. Cavour and Risacoli sent him on political missions several times. In 1870, when the province of Belleroi was incorporated in the kingdom, he was appointed civil and military governor. He was elected to the Chamber, and later was nominated a Senator. In 1882 King Umberto made Gen. Pasi his aide-de-camp.

Peacock, Sir Barnes, an English jurist, born in London in 1810; died there, Dec. 3, 1890. He was the son of a solicitor, entered the Temple at the age of eighteen, and practiced as a special pleader for five or six years before being admitted as a barrister in 1835. He became known as an acute lawyer, and in 1843 he gained a great reputation by raising, in his argument as junior counsel, the point on which chiefly the House of Lords quashed the sentence of a year's imprisonment passed upon Daniel O'Connell and his associates. The point was that the verdict was given generally on the whole of the indictment, which contained some counts that were not good in law with others that were good. In 1852 he was appointed a legal member of the Supreme Council of India, and performed an important part of the work of codifying English law for India. In 1859 he was made Vice-President of the Legislative Council and was knighted. In 1862 he became Chief Justice of the High Court of Bengal. The learning and acumen with which he interpreted the codes he had assisted in preparing, and defined and applied native customary law make his decisions a valuable source of information for students of Indian

jurisprudence. He returned to England in 1870, and in 1872 became a member of the judicial committee of the Privy Council.

Pecoli, Giuseppe, an Italian prelate, born in Carpineto, Dec. 13, 1807; died in Rome, Feb. 8, 1890. He belonged to the family of the Counts Pecoli, being the brother of Pope Leo XIII. Devoting himself early to philosophical and theological studies, he entered the Jesuit College at Viterbo with his younger brother, and in 1825 was received into the Society of Jesus. After the restoration of the Papal dominion in 1849 Pius IX appointed him Professor of Philosophy in the University of Rome. When his brother ascended the Papal throne he was nominated vice-librarian of the Church, and on May 12, 1879, he was chosen a cardinal of the order of deacons. He was appointed to preside over the congregation of studies, but failing health soon compelled him to resign. Cardinal Pecoli was a learned theologian and deeply versed in Church history, and was an earnest promoter of the religious science of St. Thomas Aquinas.

Perry, Stephen Joseph, an English astronomer, born in London, Aug. 26, 1833; died in Dublin, Jan. 4, 1890. He was educated in the English college at Douai, studied mental philosophy at Rome, entered the Society of Jesus in November, 1853, and afterward studied mathematics at Stonyhurst and in London and Paris. In 1860 he became director of the meteorological and astronomical observatory at Stonyhurst College. The duties of this post occupied his attention during the rest of his life, his mind being taken from his favorite subjects only to prepare himself for the priesthood by four years of theological study. In 1868 Father Perry and Father W. Sidgreaves, another member of his order, made a magnetic survey of the west of France, and in the following year they completed the work by a survey of the eastern districts. He was elected a member of the Royal Society in 1874, and for several years he was a member of the councils of the Astronomical and Meteorological societies. In 1870 he was appointed chief of the expedition sent to Cadix by the British Government to observe the total eclipse of the sun. In the summer of 1871 he made a magnetic survey of Belgium. In 1874 the Admiralty Board selected the Rev. S. J. Perry to direct the expedition sent to Kerguelen Island to observe the transit of Venus. In 1882 he was sent out with Father Sidgreaves to take observations of the second transit of Venus in Madagascar, where he also made magnetic observations. In the later period of his life he studied solar physics.

Pirmez, Eudore, a Belgian statesman, born in 1828; died March 2, 1890. He was elected a Deputy for Charleroi in 1857, and took his seat with the Liberal majority, over which his talents and his character soon gave him a strong influence. In the conflict over the schools he took a moderate and conciliatory attitude. In January, 1868, he entered the reconstituted Cabinet of Frère-Orban as Minister of the Interior. He represented Belgium twice in the conferences of the Latin Monetary Union, was King Leopold's adviser in the African enterprise, was sent to Paris to negotiate with France a delimitation of the boundary in the Mobangi region, and soon afterward was called to the presidency of the Superior Council of the Congo.

Pontmartin, Count Armand de, a French author, born near Avignon, July 16, 1811; died there, March 29, 1890. He was descended from a family distinguished in the magistracy, studied at the College St. Louis, became in 1833 a writer for the "Gazette du Midi," founded the "Album d'Avignon," and made a national reputation by his "Causeries provinciales," published in "La Quotidienne." His most famous work is "Jeu de Madame Charbonneau." He was for twenty-three years *feuilletoniste* for the "Gazette de France," writing more than 1,500 articles, many of which were reprinted in book form. He was a staunch Catholic and Legitimist and a caustic critic of Balzac and George Sand, and more recently of Zola, and was generally esteemed as a fair and conscientious writer.

Pretis-Cagnodo, Sisinio, Baron von, an Austrian statesman, born in Hamburg in 1828; died in Trieste, Dec. 15, 1890. He was a son of the Austrian consul-general in Hamburg. After completing his studies in Innsbruck, Prague, Göttingen, and Heidelberg, he entered the public service, was employed in Trieste and other southern districts as an official in the financial administration from 1850 till 1862, then entered the Ministry of the Marine, and subsequently was transferred to the Ministry of Commerce, and negotiated the treaties with Germany, France, and Italy. In 1871 he was appointed Governor of Trieste, and on Jan. 15, 1872, he entered the Aversperg Cabinet as Minister of Finance. The financial crisis of 1873 and the renewal of the Hungarian *Ausgleich* occurred during his incumbency. When Prince Adolf Aversperg resigned, Baron Pretis undertook to form a German-Liberal Cabinet, and failed because Dr. Herbst, leader of the Constitutional party, recalled his promise of support. He remained in the Provisional Cabinet of Stremayer until Count Taaffe took charge of the Government in 1879. He was then restored to his post in Trieste, and was an adroit and successful administrator criticised only for not using severe enough measures against the Irredentists.

Raimondi, Antonio, an Italian explorer, born in Milan in 1825; died in Lima, Peru, early in December, 1890. He went to Peru in 1850, explored Tarapacá in 1853-'54, and the provinces of Huamaco and Huamalies in 1855-'57, visited Cuzco, the capital of the Incas, in 1858, and the eastern forests of Santa Anna next; navigated the Peruvian tributaries of the Amazon, and in the wild forest region of Carabaya traced the courses of the San Gavan and Ayapata rivers. Altogether he spent twenty years in exploring every part of the Peruvian republic and studying its geology and natural history, his last journey taking him through the Amazonian provinces to the confines of Brazil. In 1873 the Peruvian Government made arrangements to print his great work at the expense of the nation. The preliminary volumes of the work, which is entitled "El Peru," appeared in 1874, 1876, and 1880, and other volumes dealing with the physical geography, geology, mineralogy, botany, zoology, and ethnology of the country were to follow. The Chilean invaders, who plundered the national library, destroyed a whole edition of the fourth volume. After the evacuation of Lima by the Chileans in 1883, Dr. Raimondi resumed his labors, but was not able to get the work into good shape again.

Rogers, James Edwin Thorold, an English political economist, born in 1823; died in Oxford, Oct. 13, 1890. He was educated at King's College, London, and Magdalen college, Oxford, obtained a first-class in classics in 1846, but had no chance for a fellowship under the old system, since reformed, took holy orders, and for some years was incumbent of a poor parish near Oxford. In later years he became an aggressive opponent of the Church, dropped his title of reverend, and was instrumental in having a law passed to enable clergymen who have divested themselves of their office to become rid of their political disabilities. He returned to Oxford as a private tutor, assumed various offices in the university administration, married a relative of Richard Cobden, with whom and Bright he became intimate, and acquired a high reputation for classical scholarship and varied knowledge. The rejection by the Clarendon Press of an Aristotelian dictionary on which he had spent much time and labor was a sore disappointment. In 1861 he published "Education in Oxford; its Aims, its Aids, and its Rewards." This was followed by "The Law of Settlement a Cause of Crime" and "Aristotle's Ethics." Securing the Drummond professorship of Political Economy in 1862, he confined his studies henceforth to this subject. In 1866 appeared the first part of his "History of Agriculture and Prices in England from 1259 to 1792." This work contained the results of a research and comparison of the accounts of Merton and other Oxford colleges, from which he drew the deduction that hostile combinations and leg-

islation have been the cause of poverty among the working classes, and union for the defense of their interests the chief source of their improvement. In 1868 he published a text-book of political economy for the use of schools and colleges. As a lecturer, Prof. Rogers was as entertaining as he was learned, but the tendency of his teachings was deemed subversive by the Conservatives, who opposed his re-election in 1868 and gave the chair to Prof. Bonamy Price, a Liberal also, but not a Radical. His defeat on political grounds naturally drove him into the field of party politics. He was defeated as a candidate for Scarborough in 1874, and in the general election of 1880 was elected to Parliament for Southwark. When that borough was divided by the Redistribution act, he was returned in 1885 for Bermondsey, but in 1886, having followed Mr. Gladstone in his home-rule policy, he was defeated by a Conservative. He published in 1884 "Six Centuries of Work and Wages," and in 1887 the fifth and sixth volumes of the "History of Agriculture and Prices," bringing the work to a conclusion. A series of lectures delivered in Worcester College in 1887-'88 were issued under the title of "The Economic Interpretation of History." His historical investigations in social economy and the conclusions that had afflicted the representatives of wealth came to be appreciated by thinking people, and when Prof. Bonamy Price died in 1888, the Marquis of Salisbury, who was chancellor of the university, and Mr. Goschen, who was a member of the board charged with the election of a successor, which no longer took place in open convocation, threw the weight of their influence in favor of restoring their fierce and uncompromising political adversary to the chair from which he had been ousted twenty years before. Prof. Thorold Rogers's contributions to political and economical literature, besides his great original work and other books already mentioned, were numerous and valuable. He prepared an edition of the speeches of John Bright (1868), edited Cobden's speeches also, and published a volume entitled "Cobden and Modern Political Opinion" (1873); produced an annotated edition of Adam Smith's "Wealth of Nations," printed at the Clarendon Press, and compiled and edited, with historical elucidations, the "Protests of the House of Lords." His daughter was the first woman admitted to the Oxford examinations, in which she acquitted herself with a distinction that would have won for a male student a first-class in classical studies, while one of his sons passed the mathematical examinations with extraordinary brilliancy.

Rosebery, Hannah de Rothschild, countess of, died at Dalmeny, Scotland, Nov. 19, 1890. She was the daughter of Baron Meyer Amschel de Rothschild, known not only as a financier but as a lover of art and owner of race horses. She was carefully educated, and learned early to take an interest in the philanthropic schemes in which her family engaged and to collect art treasures for her father's great house at Mentmore, which came to her, with all his enormous fortune, when he died in 1874. In 1878 she married the young Earl of Rosebery, who had made himself famous in political life. She was the third woman of her family to take a Christian husband without renouncing the Jewish faith. She made herself conspicuous before the public by engaging with zeal and labor in the promotion of works of charity. Besides supporting liberally the Jewish charities of London, she superintended the fund for the relief of the sick and wounded in the Egyptian war, became president of the Scottish branch of Queen Victoria's Institute for Nurses, was one of the conveners of the section for women's industries in the Edinburgh Exhibition of 1886, and in 1889 took the chief part in organizing the Scottish Home Industries Association.

Saffi, Aurelio, an Italian patriot, born in 1819; died in Forlì, April 10, 1890. He was one of the leading spirits in the Roman revolution of 1848, was elected to the Parliament of the Roman Republic, and was made Minister of the Interior. This office he resigned to become one of the Triumvirate, of which Mazzini

and Armellini were the other members. When French troops occupied Rome, Saffi and other revolutionary leaders fled to Switzerland and later took refuge in England. Saffi and Mazzini from their foreign home continued to inspire their countrymen with the love of freedom, and in 1860 they returned to Italy, and Saffi was elected to Parliament. As a member of a commission to examine into the lawless conditions of Basilicata, Otranto, and other provinces, he was instrumental in inducing the local authorities and private persons to organize and combine for the suppression of brigandage. He retained his seat three years, and then resigned because he could not countenance the definite acceptance of monarchical institutions. He was a count by birth, but discarded the title in youth. Deputations from every town in Italy were present at his obsequies.

Salamanca, Lieutenant-General, Captain-General of Cuba, born about 1820; died in Havana, Feb. 6, 1890. He was a representative of the ancient nobility of Castile, a grandee of the first class. He was a junior officer in the force sent to Italy under Gen. Cordoba to defend the temporal power of the Pope. He took a decided stand in support of the monarchical constitution in Spain, and displayed strategical abilities of a high order in the campaigns against the Carlists, rising by rapid stages to the highest rank in the army. As Governor of Malaga he wrested from the Carlists the key to their position on the Elbro by a hazardous but successful manoeuvre, and, engaging them at a disadvantage, compelled a hasty retreat. Being unable to obtain re-enforcements from Gen. Martinez Campos, he held his position and sent a part of his own force to aid the commanding general in his operations. Some time afterward he took a force to the relief of Tortosa on a train drive at full speed over a dilapidated and abandoned railroad track, through a country full of hostile *guerrilleros*. When the Carlists were finally defeated, Gen. Salamanca, who had earned the chief credit, became a prominent figure in politics. He was elected to the Cortes, and subsequently was made a Senator for life. He took a deep interest in military legislation, securing improvements in the barracks, the introduction of ambulances, and other reforms. The revelations of incompetency, oppression, and corruption in the administration of Cuba resulted in the appointment of the general to the captain-generalship. He planned a system of military roads that would enable the Spanish troops to keep the greater part of the island under control, but died before the work was well begun.

Schliemann, Heinrich, a German archaeologist, born in Kalkhorst, Mecklenburg-Schwerin, in 1822; died in Naples, Italy, Dec. 26, 1890. He was the son of a poor Lutheran pastor, and was intended for a university career, but stress of family circumstances prevented the plan being carried out. He was taught the groundwork of Latin and Greek at home, and from an early age showed a passionate enthusiasm for the stories and legends connected with the Homeric *epos*. In the autobiographical sketch prefixed to his "Ilios" he says that even as a boy he was certain that remains proving the credibility of the Homeric poems could be found by digging at the traditional site of Troy. As it became necessary that young Schliemann should go to trade, he was apprenticed to a grocer of Fürstenberg at the age of fourteen, and here he remained for five years. His ambition, however, was not quenched, and he devoted every leisure moment of a working life to study and the acquisition of languages. He finally went to Amsterdam, where he found employment in a large mercantile house and the opportunity to gratify his love of learning under better conditions. He had now become familiar with seven foreign languages—English, French, Dutch, Spanish, Italian, Portuguese, and Russian—and his knowledge of the latter-named tongue caused him to be sent to St. Petersburg as mercantile agent in 1846. He shortly afterward went into business for himself and was very successful in acquiring wealth at the Russian capital. In 1854 he

added Swedish and Polish to his trophies as a linguist, and it is stated that in 1856 he mastered the modern Greek or Romic in six weeks with the assistance of two friends from Athens; and that within three months he had so pushed his acquaintance with ancient Greek as to read the wide range of the classic writers with ease. Schliemann now began to devote himself almost exclusively to Greek scholarship, and read and reread the "Iliad" and "Odyssey" so often that he knew them nearly by heart. He traveled extensively in 1858-'59 through Sweden, Denmark, Germany, Italy, Egypt, and Syria, and added Arabic to his store of tongues. On returning to St. Petersburg to perfect himself in speaking Arabic, with a view to the excavations in the Troad which he had in mind, he read the "Arabian Nights" aloud, under the tutelage of Arab professors, and prepared himself in every way for his work. He retired definitely from business in 1863, the possessor of a large fortune, and again set out on a tour of travel and study. He visited northern Africa (including Egypt) and southern Italy in the pursuit of archaeological knowledge, and in 1864 he spent considerable time in Paris studying universal history. In the latter part of the year he began a journey around the world, which occupied two years, and which he partly recorded in his "China and Japan." During the winter of 1867-'68 he devoted himself zealously to the further study of history and archaeology under the distinguished Buele, member of the Institute, and formerly Minister of the Interior. The following year he published his "Ithaque, le Péloponnèse, et Troie," giving an account of his travels in 1868 in Corfu, Cephalonia, Ithaca, the Peloponnesus, and the plain of Troy, with the results of his studies of the Cyclopean remains of Argolis and of the geography of the Troad. In the above journey he partly followed the track of Ulysses and began his search for the site of Troy. The problem involved in the site of Troy and the credibility of the Homeric story, of which Schliemann was a strict constructionist, may here be briefly stated. The consensus of Homeric criticism has been against the original unity of the "Iliad" and "Odyssey," and has resolved them into a collection of ancient patriotic legends which finally became crystallized, like the Arthurian myths or the Nibelungenlied in after-times. The historic fact involved in Homer's description of the siege and destruction of Troy by the Greeks has also been seriously discredited in pursuance of the same method of criticism. It was Schliemann's hope to verify the existence of such a city as that depicted in the "Iliad" by excavation, and so to furnish exact proof of the truth of Homer. The Ilium of history, known as the New Ilium, as distinguished from the Ilium of tradition, was founded about 100 B. C., and it had been the popular belief of antiquity that this was built on the ruins of the old city, though many ancient authorities rather declared for the "village of the Ilians," a small town about three miles distant. The opinion of most modern archaeologists and scholars who accepted the reality of ancient Troy, however, had settled on the village of Bunarbashi, about five miles south of New Ilium, as the site affording best the conditions of the Homeric story. Excavation here revealed no remains of an ancient town, and Schliemann became convinced that the tomb of the ancient city must be sought in the mound of Hisarlik, an Arab village near the ruins of New Ilium. To this spot, armed with a firman from the Porte, he returned in 1870, and at his own expense began to excavate, continuing the work with some interruptions for three years. In 1874 appeared "Trojanische Alterthümer," or "Troy and its Remains," describing the results of his work. He found traces of two cities and afterward of three others: the upper one Greek, as was shown from coins of the age of Constantine exhumed, and about fifty feet below the surface he discovered the ruins of an ancient and much older city with beautiful pottery of arclane pattern, jewelry, etc. Here he claimed to have found the ruined palace of Priam with its abandoned treasure and a large number of helmeted

skeletons, with other relics pointing unmistakably to the legendary Troy. His book aroused bitter controversy and his critics urged that his proofs were entirely insufficient to establish his contention, in view of the many inconsistencies involved in the conditions of the Homeric narrative. The same year Dr. Schliemann, with the consent of the Greek Government, turned his attention to Mycenæ, the capital of Argolis and the legendary seat of Agamemnon, which he had visited and surveyed in 1867. The ruins of the ancient Acropolis were well defined, and it was called by the villagers the Fort of Agamemnon, where they also showed what was known as the treasury of Atreus. Excavations were made with a force of one hundred and twenty-five laborers and the remains, of an outer wall were speedily uncovered, within which Dr. Schliemann discovered elaborately sculptured slabs, which he believed to be tombstones. Ancient tradition speaks of the sepulchre of Atreus and of the tombs of Agamemnon and his companions, who were slain by Ægisthus. The sculptures on the slabs corresponded with those of the Gate of the Lions in the Acropolis. Below one row of the tombstones, at a depth of fifteen feet beneath the surface of the rock, was found a square tomb with a number of golden ornaments. Below the other row was uncovered another large excavation surrounded by a Cyclopean wall, and containing bodies with many golden ornaments. In the close vicinity he unearthed twelve other sepulchres and a Cyclopean tomb in which were found ornaments of jasper, whorls of blue stone, and painted archaic vases. The circle of slabs marking these tombs, about 555 feet round, displayed archaic sculptures in bas-relief. Near the Gate of the Lions he excavated a great treasury containing many precious articles, dome shaped like the treasury of Atreus. Many idols of Oriental type, fifteen varieties of jewelry, weapons and other articles of bronze, vases, and engraved jewels were found here. Adjoining this treasury he excavated a series of ancient walls and corridors leading to a Cyclopean house which contained various articles of use and ornament. Near the circle of tombstones where he had begun to excavate a vast house was uncovered with many chambers and corridors, which Dr. Schliemann pronounced to be the royal palace. Many interesting implements and articles of jewelry were found, terra-cotta vases painted with the figures of warriors in armor, many of them with crocodiles as handles and engraved with what might be hieroglyphics, and vases of brass. Dr. Schliemann's belief was that he had found the genuine relics of Agamemnon and the ancient race of Argive kings. There can be no question that these remains date far back to prehistoric days. The account of these excavations was given to the world in 1877 in his "Mycenæ: a Narrative of Researches and Discoveries at Mycenæ and Tiryns," to which Mr. Gladstone contributed a preface. But though the name of Tiryns appears on the title page, it was not till some years later that the doctor, with the assistance of Dr. Dörpfeld, undertook the systematic excavation of the latter site, the fabled capital of Perseus and long famous for its Cyclopean walls. Just prior to the publication of his book on Mycenæ Dr. Schliemann visited England, bringing with him the treasures of Hissarlik, which were exhibited at the South Kensington Museum. It was his intention to have made them a gift to the British Museum, but he took umbrage at satirical remarks at the expense of his scholarship published in some of the English papers, and transferred his gift to the Royal Museum at Berlin, to which his will finally bequeathed them. Dr. Schliemann, however, was received with many honors in England. The Society of Antiquaries and other learned bodies admitted him to their fellowship, and the University of Oxford made him a D. C. L. Queen's College also elected him an honorary fellow, a compliment which he shares with two other great archaeologists, Dr. Birch and M. Maspero. The spoils of the tombs of Mycenæ became the property of the Greek Government, where they are admirably ex-

hibited at one of the museums of Athens. In 1878-'79 Dr. Schliemann turned his attention once more to the Troad, and resumed his diggings at Hissarlik. His investigation was rewarded by finding a sixth subterranean city, and he now came to the conclusion that the ancient Ilium must be identified with the third city from the top instead of the second. These revised views with an account of his researches were published in 1880 under the name of "Ilios, the City and Country of the Trojans," and it contained preface, notes, and appendices by such famous scholars as Profs. Rudolf Virchow, Max Müller, A. H. Sayce, J. P. Mahaffy, H. Brugsch Bey, M. E. Burnouf, and others. In 1882 Dr. Schliemann's steps were once more drawn to this fascinating region, and the results of still further investigation were recorded in "Troja, Results of the Latest Researches and Discoveries on the Site of Homer's Troy," to which book Prof. Sayce contributed an introduction. In this he announced his conviction that the second city from the bottom was the legendary Troy. He claims to have finally proved the existence of a great city destroyed by a catastrophe, and that the hill of Hissarlik was only its acropolis, while the lower city extending around was the site of the later Ilium; and finally that these conditions fully answered the Homeric description. The controversy over Schliemann's discoveries, humorously known as the "Modern War of Troy," has raged spasmodically ever since they were first announced, and one of the most notable attacks was that made by Capt. Boetticher, who asserted that the ruins unearthed at Hissarlik were not those of ancient cities, but of a great necropolis. The investigations, however, of such scholars as Stephen, Neumann, and Virchow through the tunnels and galleries made by Schliemann was fatal to Boetticher's argument. Again last summer (1890) the great excavator returned to the work at Hissarlik and made important new discoveries. In 1884 Dr. Schliemann and Dr. Dörpfeld explored the acropolis and Palace of the Kings at Tiryns. These structures were completely uncovered, showing the design, method of building, style of ornamentation, etc. The strong analogies between the remains at Tiryns and those at Mycenæ and Orchomenos led Schliemann to believe that all these cities had been destroyed at a remote prehistoric period. "Tiryns" was published in 1885. The same year he investigated the tumulus at Marathon, which had been by tradition assigned as the burial place of the dead slain in battle at that site. While many archaic remains of interest were exhumed, there was no evidence that it was the *polyandrium* of the 192 Athenians slain in battle with the Persians. The latter part of Dr. Schliemann's life was spent at Athens, where he had built a marble palace and entertained scholars with princely hospitality from all parts of the world. He had married a Greek lady for a second wife, his first having been a Russian from whom he obtained a divorce in Indianapolis, United States in 1868. While it will remain more than doubtful whether the relics of the prehistoric city discovered by him were the remains of the city whose fall was the traditional basis of the tale of Troy, his contributions as a discoverer are in many respects transcendent. By his efforts our knowledge of civilization in Greece and the Levant has been extended back nearly a thousand years. His enthusiasm probably was a serious detriment to exact and judicious scholarship, and led him into many blunders of detail and errors of conclusion. Yet without this he never could have stirred up the interest in the archaeology of prehistoric Greece which has led and is leading to so many important results. He demonstrated the value of the spade as an instrument of investigation even to a greater extent than did Sir Henry Austen Layard, who excavated at ancient Nineveh and laid the foundation of Assyriology. To the impulse given by his discoveries may be credited the valuable work done in recent years in excavating in Egypt and Greece. The results of his discoveries, though not

always coincident with his own theories, showed that the evidence of tradition was more trustworthy than it had been believed to be under the new school of historic criticism. They offered new materials and a new problem to nineteenth century scholarship. Whatever the critics of Dr. Schliemann may have to say as to the specific theories of the Homeric period which he deduced from his researches, the consensus of judgment will assuredly credit him with having been one of the most powerful factors in stimulating the scholarship of the age in which he lived and having set a grand model for men of wealthy and cultivated leisure to follow. Dr. Schliemann's remains were carried to Athens and interred on the mound of Colonus by the side of the German archaeologist Otfried Müller.

Schmitz, Leonhard, a German educator, born in Eupen, March 6, 1807; died in London, May 28, 1890. He was educated at Bonn, where he was the tutor of Prince Albert and afterward a teacher in the gymnasium. Marrying an English woman, he settled in England in 1836, and wrote on historical and educational subjects. In 1844 he published notes that he had taken at Bonn of Niebuhr's lectures on Roman history in continuation of the "History of Rome." From 1846 till 1866 he was rector of the Royal High School at Edinburgh, attaining a high reputation by his success as a teacher and by his learned works on classical subjects. He was principal of the International College at Isleworth from 1866 till 1874, and afterward classical examiner to the University of London till 1884. Besides making important contributions to Dr. William Smith's classical dictionaries and to the "Penny Cyclopædia" and the eighth edition of the "Encyclopedia Britannica," Dr. Schmitz edited translations of Niebuhr's lectures on "Ancient History" and "Ancient Geography and Ethnology" (1853); projected and edited the "Classical Museum" from 1844 till 1850; and published a "Popular History of Rome," a "Popular History of Greece," "Grammars of the Greek and Latin languages," a "Manual of Ancient History" (1855); a "Manual of Ancient Geography" (1857); a "Manual of the History of the Middle Ages" (1859); a "Grammar of the German Language" (1876); and a "History of Latin Literature" (1877).

Sellar, Alexander Craig, a Scottish politician, born in Morvich, Sutherlandshire, in 1835; died in Sussex, Jan. 16, 1890. He was educated at Oxford, taking a first-class in classics, in 1856, and was admitted to the bar in 1862. In 1864 he was appointed assistant commissioner on the Education Commission for Scotland, and as legal secretary to the Lord Advocate, in 1870-'74, he assisted in arranging the details of the board school system for Scotland. He was also a commissioner on the working of the truck acts, and was on the commission to investigate Scottish endowed institutions. He became an active party manager, and contributed greatly to the Liberal success in 1880 by his work in the Central Liberal Association, but failed to secure a seat for himself. He entered Parliament in 1882 for Haddington, and in 1885 was elected in one of the divisions of Lanarkshire. He followed Lord Hartington when the Liberal Unionists seceded on the introduction of Mr. Gladstone's home-rule scheme, and became one of the most active of the allies of the Conservatives, but was nevertheless returned in 1886. In Parliament he was a ready debater, though his reputation was founded mainly on his work as Liberal-Unionist whip down to 1888 and on his share in the preparation of legislation.

Sellar, William Young, a Scottish author, a brother of the preceding, born in Morvich in 1825; died near Dalry, Galloway, Oct. 12, 1890. He was educated at Edinburgh Academy, the University of Glasgow, and Balliol College, Oxford, became a fellow of Oriel College, served as assistant professor at Durham, Glasgow, and St. Andrew's, became Professor of Greek at the last-named university, and in 1863 was transferred to the chair of Humanity at Edinburgh. Prof. Sellar was a contributor to "Fraser's Maga-

zine" and the "North British Review" and the author of "Roman Poets of the Augustan Age" and "Roman Poets of the Republic." He also prepared the articles on Catullus, Plautus, Horace, Virgil, Ovid, and others for the last edition of the "Encyclopedia Britannica."

Simonides, a Greek literary impostor, born about 1815; died in Albania in October, 1890. He had a remarkable knowledge of the ancient languages, history, and antiquities, which he used only for purposes of forgery and cheating. He offered a manuscript of Homer written on lotus leaves, which was examined by a committee of Greek scholars at Athens, one of whom, before the bargain was concluded, chanced to discover that the text was the same as Wolff's edition, including even the typographical blunders. Simonides swindled Ismail Pasha out of a large sum by selling him a forged manuscript of Aristotle, and deceived the authorities of the British Museum with a false letter from Belisarius to Justinian. He sold two fabricated letters purporting to have passed between Pericles and Alcibiades to the Duke of Sutherland. The Turkish Viceroy was induced to dig up an apocryphal document, and was delighted with his find until the gardener undeceived him. Many more were the exploits of the cunning Greek, who succeeded in imposing on some of the best scholars of Europe and the Orient.

Smyth, Sir Warrington W., an English mineralogist, born in Naples, Italy, in 1817; died in London, June 19, 1890. He was the eldest son of Admiral W. H. Smyth, and was educated at Trinity College, Cambridge, winning, in 1839, a traveling scholarship that enabled him to spend four years in studying the mineral products and mines of Germany, Austria, Hungary, and European and Asiatic Turkey. On his return he was employed on the Geological Survey till 1851, when he was appointed lecturer on mineralogy and on mining in the newly founded Royal School of Mines. He was made at the same time inspector of mines in Cornwall and soon afterward chief mineral inspector under the Government. He was honorary secretary and afterward foreign secretary of the Geological Survey and in 1866-'67 its president. In 1879 he was appointed chairman of the commission on accidents in coal mines, and for seven years he devoted much labor to the investigation, for which he was knighted in 1887. He contributed many reports and memoirs to technical and scientific literature and was the author of "A Year with the Turks" (1856) and of a standard work entitled "A Rudimentary Treatise on Coal and Coal Mining" (1867), which has been translated into the principal European languages and into Chinese.

Thomson, William, an English prelate, born in Whitehaven, Feb. 11, 1819; died in York, Dec. 25, 1890. He was the son of a merchant. His early education he received at Shrewsbury School when Samuel Butler, afterward Bishop of Lichfield, was head master, from which he went up to Queen's College, Oxford, and in 1840 took his degree, obtaining only a third-class in classics, but nevertheless being elected a fellow of his college. The Oxford movement did not disturb his orthodoxy. He was ordained deacon in 1842 and priest in the following year, preached at Cuddesdon and Guildford, and returned in 1847 to Oxford as tutor and dean in Queen's College, and in 1848 was made select preacher. In 1853 he delivered the Hampton Lectures, his subject being "The Atoning Work of Christ." In the same year he published a book on logic entitled "Outlines of the Necessary Laws of Thought," in which intellectual philosophy based on religion, as taught by Sir William Hamilton, was clearly and succinctly elucidated. This volume obtained wide recognition in orthodox circles and was used as a text-book. Having married in 1855, he was given the living of All Souls, Marylebone, but returned to Oxford a few months afterward as provost of Queen's College, to which post was added in 1888 the preacher'ship of Lincoln's Inn and in 1889 that of chaplain in ordinary to the Queen. When the see of

Gloucester and Bristol became vacant he received the appointment, to the surprise of his contemporaries in the Church, who were still more astonished when a little more than a year later he was promoted to be Archbishop of York. It came to be known at a later period that his advancement was due to the friendship and admiration of the Queen. While he was Bishop of Gloucester and Bristol he edited a book called "Aids to Faith," written in answer to "Essays and Reviews." As Archbishop of York he displayed executive ability, good sense, tact, and moderation. He came into conflict with some of the clergy of his diocese through his rigid evangelical Broad Church orthodoxy, and in a mandamus suit before the civil court he argued and won the case without the aid of lawyers. Dr. Thomson's published sermons and theological essays were numerous. He was the proprietor of the "Speaker's Commentary," for which he prepared the "Introduction to the Gospels."

Tollemache, John, Baron, of Helmingham Castle, Suffolk, an English agriculturist, born at his father's seat Leasowes, Salop, England, Dec. 5, 1805; died at Peckforton Castle, Cheshire, Dec. 9, 1890. He was the eldest son of Admiral John Richard Delap Holliday, and changed his patronymic for the surname of Tollemache, in right of his mother, Lady Jane Tollemache, daughter and co-heiress of Lyonel, third Earl of Dysart. When only nineteen years of age he won a 100-yard race against the most noted professional in England, and for several years he drove the London mail to Ipswich, gaining, before he was thirty, the reputation of being the finest whip and the handsomest man of his time. He maintained his love of field sports and of driving a four-in-hand to the very last. Nothing, as he told the writer, delighted him more than the success of his sons in the cricket fields and other games at Eaton and Oxford. Lord Tollemache was the model landlord of England. Mr. Gladstone, who was for many years his London tenant, has repeatedly directed attention to the consummate skill with which he administered his two large estates—Helmingham, in Suffolk, comprising about 7,000 acres, and Peckforton, in Cheshire, 26,000. Although the most uncompromising of Tories, he divided his vast properties into small holdings, allotted three acres to each laborer for garden, grazing, and tillage, demanded that a cow and a pig be kept, had his tenants taught butter and cheese making, and allowed them time to cultivate their holdings, the results of his liberal policy appearing in a large increase of the valuation of his property and the most prosperous and contented tenantry in Great Britain. He provided mixed schools for the education of the farmers' and laborers' children; but after the buildings were erected on both estates, the tenant farmers objected to sending their sons to the same schools with the laborers' children. Lord Tollemache immediately solved the difficulty by sending his own sons to the schools, and, as he said, "to their own undoubted advantage." He was twice married, and had perhaps the most patriarchal family in England—twenty-three sons and a daughter. He traveled in this country and Mexico in 1850, and was entertained at the White House during the brief presidency of Gen. Taylor, and received much attention from Webster, who made his acquaintance during his visit to Europe in 1839. Lord Tollemache, who was for many years member of Parliament for South, and afterward for West Cheshire, was created first Baron Tollemache of Helmingham, Jan. 17, 1876. He was buried in the beautiful family chapel there, six of his sons and six of the tenantry acting as pall-bearers, and by the side of his gallant kinsman Gen. Talmash, who, says Macaulay, "perished by the basest of all the hundred villains of Marlborough."

Trollach, Anton, Freiherr von, a German physician, born in Schwabach, April 3, 1829; died in Würzburg, Jan. 10, 1890. He studied law in Erlangen, then natural science in Munich, and finally medicine in Würzburg, and supplemented the regular studies with a course on the eye under Gräfe in Berlin and Arlt in

Prague, and one on the ear in Great Britain and Ireland under Toynbee and Wilde. He settled, in 1856, in Würzburg as a physician, and became a tutor and in 1864 a professor. He devoted himself specially to diseases of the ear, and in 1855 invented an instrument for examining that organ. His text-book on the ear was published in 1862, and went through seven editions. He projected and edited the "Archiv für Ohrenheilkunde." In his special branch he acquired a fame that brought both students and patients from all parts of the world.

Tseng, Marquis, a Chinese statesman, born in 1848; died in Peking, in April, 1890. His full name was Tseng Chitsee. He was a son of Tseng Kwo-fan, a distinguished minister, who received the title of Hou, which is regarded as equivalent to that of marquis in the European nobility. The son studied in the Imperial College, and entered the public service as his father's secretary, accompanying him in the campaigns of the Taiping rebellion and on official tours after its suppression. He attained the official grade of Tang-Kwan (Expectant Secretary of State), and in the following year was appointed Envoy Extraordinary and Minister Plenipotentiary to England and France. When the Chinese Government repudiated the settlement of the Kuldja difficulty that Chung-How obtained in treaty of Livadia, the Marquis Tseng was instructed to go to St. Petersburg as special ambassador for the purpose of seeking a more satisfactory arrangement, which he obtained in the treaty of St. Petersburg, signed in 1881, restoring Kuldja to China and re-establishing harmonious relations with Russia. His diplomacy was successful also in the settlement of the long-standing dispute with France in regard to Tonquin. He returned to China in 1886, after eight years of diplomatic service abroad, and was made a Grand Secretary and appointed to the presidency of the newly constituted Admiralty Board.

Valoueff, Count Peter Alexandrovich, a Russian statesman, born near Moscow in 1815; died in St. Petersburg in January, 1890. He came from a family of the landed Muscovite nobility that before him had never distinguished itself in the public service. At the age of sixteen he entered the Ministry of Foreign Affairs under Count Nesselrode. In 1853-'58 he was Governor of Courland, subsequently he filled a post in the Ministry of Domains, and in 1861 he was appointed Minister of the Interior. The emancipation of the serfs, local self-government, the establishment of municipal institutions, and other reforms introduced by Alexander II were put into practical shape, and he was often consulted by the Czar on questions lying outside his particular department. Of the many commissions that investigated the great questions of the reform era he was either the head or an active member. He afterward had charge of the Ministry of Domains for six years, and in 1879 was appointed President of the Committee of Ministers. In 1880 he was made a count of the empire. The assassination of the Czar was followed by a reaction and the undoing of the liberal innovations in which Valoueff was instrumental. He went into retirement, and gave himself up to religion and charity and to literary occupations, writing among other things a novel named "Lorin." In bidding farewell to politics he uttered a memorable speech at the first council meeting presided over by the present Czar in 1881, in which he protested against the policy of reaction.

Wallace, Sir Richard, an English art collector, born in London in 1818; died in Paris, July 20, 1890. His father, the Marquis of Hertford, spent the latter part of his life in Paris. He made the finest collection of art treasures, all of which, with his houses in London and Paris and a large fortune, he left to his son, who added to the collections. He also spent most of his life in Paris, only going to London to attend the sessions of Parliament, of which he was a member from 1873 to 1885. He was made a baronet in 1871. In Paris he won the gratitude of the people by giving largely to relieve their sufferings as soon as the siege was raised by the Germans. The paintings, furni-

ture, tapestries, china, etc. in Hertford House are valued at £3,000,000, and those in the two houses in Paris at nearly as much.

Wehl, Feodor, a German *littérateur*, born in Kunzendorf, near Breslau, Feb. 19, 1821; died in Hamburg, Jan. 23, 1890. He entered the military academy in Berlin, and afterward studied at the university. Under the inspiration of the Romantic school he wrote "Hermann von Siebenreihen," "Constantin," "Hölderlin's Liebe," "Ehre und Liebe," the comedies entitled "Alter schützt vor Thorheit nicht" and "Wer zuletzt lacht, lacht am besten," and "Reise nach Glück" and "Der Mann der Toten," two poetical tales. In early manhood he came under the influence of the Young Germany movement, which he described in one of his later books, "Das Junge Deutschland" (1887).—This period he began with the satirical poem "Der Teufel in Berlin," which was suppressed and its author imprisoned for six months in the Magdeburg fortress. He edited the "Wespen" and "Berliner Stocknadeln," which were stopped by the censors, and then the "Telegraph" and the "Jahreszeiten" successively. The comedies that he now wrote were played on all German stages. Among them are "Die Tante aus Schwaben," "Eine Frau welche die Zeitungen liest," and "Allerhand Streiche." He wrote a multitude of stories, some of which were gathered in the collection issued first under the title "Aller weltgeschichten" (Breslau, 1862) and were reissued later under that of "Dunkle Blätter aus der Geschichte Italiens." Settling in Hamburg, he wrote a history of the literary life of the city and founded "Die Deutsche Schaubühne" for dramatic criticism. In 1863 he removed to Dresden, continuing the "Schaubühne" till 1865, and in 1862-'64 the "Heimath." His essays on Shakespeare and the great German dramas were reprinted under the title of "Didaskalien" (Leipzig, 1867). In 1870 he became the manager of the Stuttgart court theatre, and for fifteen years he endured the vexations and disappointments that are portrayed in his book entitled "Fünfzehn Jahre Stuttgarter Theaterleitung." When free to resume literary work he returned to Hamburg and composed the reminiscences of Young Germany, another volume called "Zeit und Menschen," covering the period from 1863 to 1884, "Aus dem früheren Frankreich," and "Der Ruhm im Sterben."

Willem III, King of the Netherlands, born Feb. 19, 1817; died at the castle of Loo, Nov. 23, 1890. He was the eldest son of Willem II and Queen Anna Paulovna, daughter of the Czar Paul. He was educated by private tutors, becoming conversant with the language and literature of France, England, and Germany, and passed creditably through the university course at Leyden, taking the degree of doctor. In his youth he became infatuated with a passion for Malibran, the singer, who procured a divorce with the intention of marrying the heir to the throne, but was induced to accept the violinist De Borlet as her husband. In June, 1839, the Prince of Orange married Sophia, second daughter of the King of Württemberg. His romantic grief for Mme. Malibran, in memory of whom he composed dirges and mournful nocturnes, and his subsequent amours with Mlle. Ambre, Mme. Musard, and other celebrities of the stage, made his wife very angry and wretched, and shocked his fellow-countrymen, who felt some uncomfortable apprehensions when the wild prince came to the throne, on March 17, 1849, as to his social influence, but knew that their political destinies were safe, for he had manifested sympathy with the popular desires. Inheriting a fortune estimated at 100,000,000 florins, he signaled his accession by giving up half of the civil list, and devoted himself to developing the liberal institutions accorded in the new Constitution signed by his father shortly before his death. He abrogated the concordat that had been concluded with the Holy See in 1827, though a Roman Catholic hierarchy was re-established four years later. He turned his attention with good effect to a reform of the colonial administration, and took an enthusiastic

interest in the reclamation of lands submerged by Haarlem lake that had been begun in 1840 and was concluded in 1853. During the Crimean War he observed the strictest neutrality. In 1862 he signed a law for the abolition of slavery in the Dutch West Indies. When Prussia, after the conclusion of the treaty of 1867 guaranteeing the neutrality of Luxemburg, complained of the acts of the Luxemburgers and threatened to occupy the grand duchy, King Willem declared that he would maintain the treaty. He interested himself in humanitarian doctrines, and took pleasure in signing the act of 1870 abolishing the death penalty. He showed always a deep concern in the welfare and prosperity of the nation and helped greatly to further the unexampled development of wealth and progress that distinguished his reign. He appeared frequently in public, and in his addresses he displayed knowledge, good sense, and political tact. In 1876, on the occasion of the opening of the Amsterdam ship canal, he discussed the project of draining the Zuider Zee like an expert. His private life was more scandalous after he became King than before, and grew still more so as he advanced in years. He was an intelligent lover of art, and had a passion for music, had operatic artists for his constant companions, and amused himself by arranging costly musical feasts at Loo. By Queen Sophia he had two sons, Willem Nicholas, Prince of Orange, born Sept. 4, 1843, and Prince Alexander, born Aug. 25, 1851. Queen Sophia was one of the best educated ladies in Europe. She could speak nearly every European language fluently, was familiar with literature, art, and science, and interested herself in her advancement, and from her progressive political opinions was known as the "red queen." Her friendship for John Lothrop Motley and the interest that she took in his history secured for him the facilities for research. For many years before her death she lived separate from her husband in her house in the wood, known as the "Huis in t' Bosch," that she had given up to Motley while he was writing his history of the Dutch Republic. The royal pair were accustomed to meet once a year for an exchange of greetings in a vaulted chamber in the palace at Amsterdam. Notwithstanding their estrangement, the King was overcome with emotion when the Queen died in 1877. The Prince of Orange, who became a stranger to his family and country, died after a career of dissipation in Paris. The other son was afflicted with an incurable spinal disease. The hope of a collateral heir was destroyed by the sudden death of Prince Hendrik, the King's brother, in January, 1879, a few days after Willem had married the youthful Princess Emma of Waldeck-Pyrmont with the object of making the succession sure. By his second wife he had two daughters. The family law precluded succession in the female line, but it forms no part of the Netherlands Constitution. As the Prince of Wiede and Prince Albrecht of Prussia, descended through their mothers from Willem I, might advance rival claims, a special constitutional law was adopted settling the crown on the Princess Willemine, who will attain her majority in 1898, and her heirs, in default of direct descendants to the King's sister, and her heirs, male or female.

Zeuner, Karl, a German explorer, born in Emmendingen, Baden, in 1852; died in Lagos, West Africa, in April, 1890. His father was a Protestant pastor. At the beginning of the war of 1870 he left the lyceum at Rastatt to join the army as a volunteer, and after his return from the campaign he entered the military school at Engers, and at the beginning of 1872 was commissioned as an officer in the regiment in which he had served during the war. When the colonial undertakings of the Imperial Government offered him a chance for active and adventurous service, he placed himself at the orders of the Foreign Office, prepared himself by learning English and prosecuting the study of natural history, in which he was already versed, and on Oct. 2, 1887, sailed with Dr. Zintgraff for Cameroons. He was stationed for the next

two years at Barombi, exploring the interior and making valuable collections of natural specimens, maps, and reports. He was invalided home in the summer of 1889, returned in the autumn, and, when the malarial season came, was prostrated again and did not recover.

OHIO, a Central Western State, admitted to the Union in 1803; area, 39,964 square miles; population, according to the last decennial census (1890), 3,666,719, an increase during the decennial period of 468,657. In the census of 1880 it ranked as the third State in the Union, but it fell to the fourth place in the census of 1890. Capital, Columbus.

Government.—During 1890 the State officers were: Governor, James E. Campbell, Democrat; Lieutenant-Governor, William V. Marquis; Secretary of State, Daniel J. Ryan, Republican; Auditor, Ebenezer W. Poe; Treasurer, John C. Brown; Attorney-General, David K. Watson; Judges of the Supreme Court, Marshall J. Williams, Chief Justice, Franklin J. Dickman, William T. Spear, Joseph P. Bradbury, Thaddeus A. Minshall; Clerk of the Supreme Court, Urban H. Hester; Commissioner of Common Schools, John Hancock; Board of Public Works, Wells S. Jones, William M. Hahn, Frank J. McColloch.

Population.—The population of Ohio by counties, according to the national censuses of 1880 and 1890, is shown in the following table:

COUNTIES.	1880.	1890.	Increase.
Adams.....	24,005	26,098	2,058
Allen.....	31,814	40,644	9,830
Ashland.....	28,383	22,293	* 1,660
Ashtabula.....	37,189	48,655	6,516
Athens.....	28,411	35,194	6,783
Auglaize.....	25,444	28,100	2,656
Belmont.....	48,688	57,418	7,735
Brown.....	32,911	29,899	* 3,012
Butler.....	42,279	48,597	6,018
Carroll.....	16,416	17,566	1,150
Champaign.....	27,817	26,990	* 837
Clark.....	41,948	52,217	10,269
Clermont.....	36,718	39,538	* 3,160
Clinton.....	24,756	24,240	* 516
Columbiana.....	45,602	50,029	10,427
Coshocton.....	26,648	26,708	61
Crawford.....	30,598	31,927	1,344
Cuyahoga.....	196,948	309,970	113,022
Darke.....	40,496	42,961	2,465
Defiance.....	22,515	25,769	3,254
Delaware.....	27,381	27,189	* 192
Erle.....	32,640	35,462	2,822
Fairfield.....	34,284	38,939	* 845
Fayette.....	20,364	22,809	1,945
Franklin.....	86,797	124,067	37,270
Fulton.....	21,053	22,623	970
Gallia.....	23,124	27,005	* 1,119
Geauga.....	14,251	18,489	* 762
Greene.....	31,849	29,891	* 1,599
Guernsey.....	27,197	28,645	1,448
Hamilton.....	313,374	374,578	61,199
Hancock.....	27,794	42,563	14,779
Hardin.....	27,023	28,939	1,916
Harrison.....	20,456	20,880	374
Henry.....	20,585	25,080	4,495
Highland.....	30,981	29,048	* 1,238
Hocking.....	21,196	22,658	1,562
Holmes.....	20,776	21,189	863
Huron.....	31,609	31,949	340
Jackson.....	25,656	28,408	4,722
Jefferson.....	33,015	39,415	6,397
Knox.....	27,431	27,600	169
Lake.....	16,326	18,285	1,909
Lawrence.....	39,068	39,556	488
Licking.....	40,450	48,279	2,899
Logan.....	26,967	27,366	1,119
Lorain.....	32,526	40,295	4,769
Lucas.....	67,377	102,296	34,919
Madison.....	20,199	20,057	* 73
Mahoning.....	42,871	55,979	13,108
Marion.....	20,665	24,727	4,162

COUNTIES.	1880.	1890.	Increase.
Medina.....	21,438	21,742	289
Meigs.....	32,325	29,813	* 2,512
Mercer.....	21,808	27,220	5,412
Miami.....	36,156	39,704	3,596
Monroe.....	38,496	55,175	* 1,681
Montgomery.....	78,550	100,632	22,082
Morgan.....	20,074	19,143	* 931
Morrow.....	19,073	18,120	* 952
Muskingum.....	49,774	51,210	1,436
Noble.....	21,138	20,763	* 835
Ottawa.....	19,762	21,974	2,212
Paulding.....	13,485	25,982	12,447
Perry.....	28,218	31,151	2,968
Pickaway.....	27,415	26,950	* 456
Pike.....	17,927	17,459	* 445
Portage.....	27,500	27,568	68
Preble.....	24,533	18,421	* 1,112
Putnam.....	23,718	30,188	6,470
Richland.....	26,806	38,072	1,766
Ross.....	40,307	39,454	* 528
Sandusky.....	32,037	30,617	* 1,440
Seneca.....	33,511	35,877	1,566
Shelby.....	36,947	40,569	3,922
Stark.....	24,187	24,707	570
Summit.....	64,081	54,170	20,189
Tuscarawas.....	48,788	50,495	10,801
Trumbull.....	44,880	42,873	* 2,507
Tuscarawas.....	40,198	46,618	6,420
Union.....	22,875	22,660	* 45
Van Wert.....	23,028	29,671	6,643
Vinton.....	17,228	16,045	* 1,178
Warren.....	28,392	25,468	* 2,924
Washington.....	48,244	42,280	* 864
Wayne.....	40,076	39,005	* 1,071
Williams.....	23,821	24,597	1,076
Wood.....	34,022	44,892	10,870
Wyandot.....	22,395	21,723	* 678
Total.....	3,198,062	3,672,816	474,254

* Decrease.

Finances.—The balances in the treasury to the credit of the several funds at the close of the fiscal year 1889 were as follows: General revenue, \$22,363.88; sinking fund, \$245,040.45; State common-school, \$114,255.54; total, \$381,659.87. The receipts into the treasury during the year from all sources amounted to \$5,853,677.82; total receipts, including balance, \$6,235,337.69; disbursements for same period, \$5,832,751.25; leaving cash balance in the treasury, Nov. 15, 1890, \$420,586.44, credited to the following funds: General revenue, \$71,908.52; sinking, \$198,258.45; State common-school, \$132,329.47. During the year payments of \$255,000 had been paid on the public debt of the State, leaving the amount outstanding Nov. 15, 1890, of public funded debt \$2,541,665. The irreducible State debt (trust funds) was at the same time \$4,600,863.04. The aggregate of local debts was \$62,992,956.74. Of this amount, the debts of the counties were \$6,974,779.22; of cities, \$50,580,409.96; of incorporated villages, \$2,008,050; of townships, \$325,887.47; of special school districts, \$3,103,830.09. During the year there had been a net increase in local indebtedness of \$2,764,835.11. The increase was in the debts of cities, school districts, and villages, aggregating \$4,283,918.75, the debts of counties and townships having been reduced \$1,518,083.64. The value of all taxable real estate and personal property in Ohio, according to the consolidated tax duplicate of 1890, was as follows: Real estate in cities, towns, and villages, \$506,663,058; real estate not in cities, towns, and villages, \$725,642,254; chattel property, \$545,893,165; total taxable values in 1890, \$1,778,138,477; net increase in the valuation, as compared with 1889,

\$23,941,133. The taxes for the fiscal year 1891 levied upon the foregoing basis of valuation were as follow: For general revenue fund, \$2,487,468.53; sinking fund, \$533,028.39; common-school fund, \$1,778,138.72; total for State purposes (2-7 mills) \$4,798,635.64. The aggregate taxes for county purposes were \$9,083,946.74; for township, city, school, and special taxes, \$21,061,378.63. The total levies made in 1890 for all purposes, including per capita tax on dogs and delinquencies, were \$37,862,362.53.

Live-Stock Statistics.—According to the assessors' returns for 1890, there were in the State, owned and listed for taxation: Horses, 846,789; cattle, 1,486,881; mules, 23,930; sheep, 3,594,800; hogs, 1,891,760.

Railroads.—The State Board of Equalization makes the following return of mileage and valuation of railroads in the State in 1890: Miles of main track, 7,131; second track, 616; branches, 456; side track, 2,302; total mileage, 10,505; grand total of value of taxable railroad property of all kinds, \$101,551,609.

Banks.—There were reported to the State Auditor 228 national banks, with an aggregate capital stock of \$39,592,719, surplus \$9,135,902, and undivided profits \$2,431,235; 61 savings and other banks organized under State laws, with a total capital stock of \$3,761,610, surplus \$532,948, undivided profits \$311,543. There are 4 savings associations incorporated with no capital stock, with an aggregate of deposits and undivided profits of \$23,759,340.71.

Personal Statistics.—The number of youth of school age (between six and twenty-one years), as reported to the State Auditor from the several counties, was 1,123,895; of deaf and dumb persons, 1,236; blind, 1,009; insane, 1,441; idiotic, 1,345.

Agricultural.—The agricultural statistics for the year ending on the second Monday in April, 1890, show the following totals:

Wheat: Acres sowed, 3,165,933; bushels produced, 31,653,448; number of acres sowed for harvest of 1890, 2,557,917; cost of commercial fertilizer bought for crop of 1890, \$1,682,645. Lands: Acres cultivated, 9,741,467; number of acres in pasture, 6,205,297; wood land, 3,767,338; acres lying in waste, 439,466; total number of acres owned, 20,153,568. Wool: Pounds shorn in 1889, 13,287,869; sheep killed by dogs, 27,862, valued at \$100,536; number injured by dogs, 21,823, valued at \$42,857. Domestic animals died from disease: Hogs, 193,477, valued at \$804,507; sheep, 85,871, valued at \$212,745; cattle, 19,375, valued at \$358,589; horses, 14,806, valued at \$1,034,272. Losses by floods: Live stock, \$25,531; grain, \$51,483; houses, \$14,457; fences, \$27,745.

Criminal Statistics.—The sheriffs' returns show the total number of prisoners confined during the year ending June 30, 1890, in the jails of the 88 counties to have been 9,402, of whom 7,184 were native born. Of these, 4,982 were natives of Ohio and 2,490 were from other States. The foreign countries are represented as follow: British America, 78; England and Wales, 186; France, 32; Germany, 491; Holland and Belgium, 65; Ireland, 589; Italy, 61; Russia, 17; Scotland, 48; Sweden and Norway, 21; Switzerland, 14; other countries, 63; unknown, 241. Of the total number of prisoners, 7,414 were white and 931 colored; 8,154 were males and 769 females, and 1,114 were under age. There were among the number 439 wholly illiterate, 3,992

able to read and write, while 384 had received a higher education. The total cost of maintenance was \$106,234.06, the daily average being \$48.66.

Legislative.—The sixty-ninth General Assembly organized Jan. 6, with 19 Democrats and 17 Republicans in the Senate, and 62 Democrats and 52 Republicans in the House. The new Governor and Lieutenant-Governor took their respective offices Jan. 13. In his inaugural address, Gov. Campbell recommended investigation into the subject of municipal reform, with the object of restoring to them home rule where any of the cities had been deprived of it by subjecting them to gubernatorial control. He urged at length the adoption of the Australian ballot and other reforms in election matters; suggested various improvements in the conduct of the benevolent institutions of the State; legislation in the direction of cheaper school books; more liberal appropriations for agricultural institutes; more efficient methods in forestry work; the establishment of a permanent camp for the State militia; and the co-operation by the Legislature in the work of establishing uniform commercial law.

The election of a United States Senator to succeed Hon. H. B. Payne was held Jan. 14. In the Senate, Calvin S. Brice, of Allen County, received 19 votes; Charles Foster, of Seneca County, 14; and Murat Halstead, of Hamilton County, 1. In the House, Calvin S. Brice received 57 votes; Charles Foster, 52; and Lawrence T. Neal, 1. In joint convention next day, the election of Calvin S. Brice to be Senator for the term beginning March 4, 1891, was declared.

Notice of contest had been served upon Lieut.-Gov. Elbert L. Lampson by his Democratic opponent William V. Marquis, and the case was decided by the Senate Jan. 30. Lampson's plurality on the face of the returns was 23, but Marquis claimed 505 illegal votes had been cast for the Republican nominee. The Senate, by a strictly partisan vote of 18 to 16, decided that Lampson was not legally elected, and that Marquis was. Mr. Lampson protested and threatened to bring the case before the Supreme Court, but in a few days abandoned the contest and left Mr. Marquis in undisturbed possession of the presidency of the Senate.

Among the bills of a general nature passed at the first regular session of the Legislature, the most important were the following:

- To prevent deception in the sale of dairy products, and to preserve public health.
- To redistrict the State for congressional purposes.
- To amend the act providing for paying wages twice a month.
- To provide against accidents on railroads and limit the hours of service.
- To amend the compulsory education law.
- For the protection and relief of railroad employes; forbidding certain rules, regulations, contracts, and agreements, and declaring them unlawful; declaring it unlawful to use cars or locomotives that are defective or defective machinery or attachments thereto belonging, and declaring such corporation liable, in certain cases, for injuries received by its servants and employes on account of the carelessness or negligence of a fellow servant or employe.
- To prevent the engagement of children at any employment whereby their lives and limbs may be endangered, or their health injured, or their morals are likely to be impaired.

To provide accommodations for the epileptic and epileptic insane.

To provide for the organization and support of farmers' institutes.

To make the first Tuesday after the first Monday in November a legal part-holiday for election purposes only.

To make the first Monday in September a legal holiday as labor day.

A bill providing for ballot reform passed the House, but was not acted upon in the Senate. The regular session closed on April 28.

Extraordinary Session.—A proclamation by Gov. Campbell, dated Oct. 6, called the Legislature to meet in extraordinary session, Oct. 14, to take action upon a communication that would be laid before it. On that day both houses convened, and received a message from the Governor, in which he said the session was called "on account of the deplorable condition of public affairs in the city of Cincinnati, which, it is believed, can be partially remedied by enabling the people of that city to choose certain important boards at the approaching November election." The message recited the action taken at the regular session in creating a board of public improvements and the decennial board of equalization and omitting to provide that the people should choose those very important bodies. The change from the former method merely consisted in providing that after the first appointment by the Governor the member should be elected by the people. This advantage was offset by the failure to empower the Governor to remove his appointees should they prove to be inefficient or dishonest. A change for the worse was a provision that 3 members instead of 4 could transact business, thus enabling them to unite and control affairs. Rumors of corruption had become so numerous, and so widely believed, that the Governor urged the Legislature to abolish both boards, and remit choice of their successors to the people of Cincinnati.

In compliance with the suggestion of the message, the Senate passed, Oct. 16, by a vote of 19 to 17, a bill providing for an election in April, 1891, of a board of public improvements for Cincinnati, and giving the Governor power to remove, in the mean time, any member of the existing board, "for any reasons that may, to him, seem sufficient." A resolution was also adopted providing for a joint committee of investigation into the entire municipal government of Cincinnati. The bill failed of passage in the House. Oct. 20, the Governor sent another message to the Legislature saying, that, as it had failed to accomplish the purpose for which it was called, "some further suggestions are in order." He pointed out that there would not be sufficient time to prepare for an election in November, as originally recommended, therefore he recommended that a non-partisan board of improvements be created, to be appointed by the Mayor. In concluding his message, he said: "Do not swerve a hair's breadth from your purpose to wipe out the board, and eventually submit the whole question to the people. From this time on any and all propositions, other than this, are meant for partisan advantage only. There is no middle ground. To delay longer is a confession of incapacity, to refuse the passage of the bill is a confession of infidelity." In accordance with

this suggestion a bill was introduced "to create and establish an efficient board of city affairs in cities of the first grade of the first class," which abolished the existing Board of Improvements, and gave to the Mayor the appointment of the new board until the election of its members by the people in April, 1891. In this form the bill passed both houses and became law. The extraordinary session closed Oct. 24.

Political.—The Republican State Convention was held at Cleveland on July 16, and adopted a platform approving the administration of President Harrison and the action of the Republican members of both houses of Congress in regard to the coinage of silver, the revision of the tariff, the Federal election bill, the disability pension bill, and other measures of national importance. Special approval was given to the Republican Congress and Speaker Reed "for amending the rules of the House so that the business of the country can be done by the people's representatives." The McKinley tariff bill was warmly commended, and protection demanded for the wool industry "equal to that accorded to the most favored manufacturers of wool, so that in due time American wool-growers will supply all wool of every kind required for consumption in the United States." An additional resolution favored "such Legislation, by Congress and in this State, as will, in every practical mode, encourage, protect, and promote the interests of agriculture in all its departments."

The Democratic State Convention was held at Springfield, Aug. 27. The platform began by demanding the reduction of tariff taxes, and declaring: "We will continue the battle for tariff reform until the cause of the people is triumphant. All money taken by law from the people should go into the public treasury. Tariff taxes should be for revenue only. All so-called protective tariffs are dishonest, wasteful, and corrupting. They plunder the masses to enrich the few. They have crippled agriculture, retarded manufacturing, created trusts, destroyed commerce, and corrupted our law-makers. Therefore, we are opposed to the McKinley tariff bill, now pending in Congress." The platform also favored legislation against trusts; "the free coinage of silver at its present ratio with gold"; just, liberal, and equitable pension laws; ballot reform. It denounced the Federal election bill and "the despotic code of rules adopted by the present national House of Representatives." In conclusion it sympathized with the laboring and producing classes "in their struggle against the encroachments and oppressions of capital," and hailed with satisfaction "the awakening among the farmers to the evils of Republican legislation, under which they are suffering."

The Prohibition and Union Labor parties also held State conventions, placed full tickets in nomination, and adopted platforms similar to those put forward in previous years.

The election on Nov. 4 had the following result: Secretary of State—Daniel J. Ryan, Rep., 363,548; Thaddeus E. Cromley, Dem., 352,579; Melancthon C. Lockwood, Pro., 23,837; Ezekiel T. Curtiss, U. L., 1,752. Judge of Supreme Court—Thaddeus A. Minshall, Rep., 362,896; George B. Okey, Dem., 353,628; Olin J. Rose, Pro., 23,724; William Baker, U. L., 1,724. Member Board of

Public Works—Frank J. McColloch, Rep., 362,594; Leopold Keifer, Dem., 353,840; Joseph M. Scott, Pro., 23,080; Eli Raub, U. L., 1,759.

Of the 21 Congressmen elected, 14 were Democrats, and 7 Republicans.

OKLAHOMA, a Territory of the United States, organized by act of Congress, approved May 2, 1890; area (including the Cherokee country and No Man's Land), 39,030 square miles; population (including Greer County, claimed by Texas), according to the census of 1890, 61,834. Capital, Guthrie.

Government.—The following Territorial officials were appointed by the President in May: Governor, George W. Steele, Republican; Secretary, Robert Martin; United States District Attorney, Horace Speed; United States Marshal, Warren S. Lury, who was succeeded by William Grimes; Chief Justice of the Supreme Court, Edward B. Green; Associate Justices, Abraham J. Seay and John G. Clark. The following officials were appointed by Gov. Steele in November, the Territorial Legislature having by law established the respective offices: Territorial Treasurer, W. T. Higgin; Attorney-General, Charles Brown; Superintendent of Public Instruction, J. H. Lawhead.

Population.—The following table shows the population of the Territory by counties, as determined by the national census of 1890:

COUNTIES.	Population.	COUNTIES.	Population.
Beaver	2,674	Logan	12,770
Canadian	7,156	Oklahoma	11,742
Cleveland	6,605	Payne	7,215
Greer (claimed by Texas)	5,838	Total	61,834
Kingfisher	8,882		

Attempted Provisional Government.

For the thousands of people who rushed over the borders of Indian Territory on April 22, 1889, to secure homesteads in Oklahoma, no form of local government had been provided. When each immigrant had taken possession of his claim, he found himself bound by no law, except the general authority of the Federal Government. Efforts to secure by agreement a provisional code of laws were speedily inaugurated. Before the end of April a call was issued for a convention at Guthrie on May 22, 1889, which should adopt a form of provisional government, following the outline thereof suggested in the call. But all efforts at united action failed on account of the rivalry between the larger towns, especially Guthrie and Oklahoma City, each wishing to be the capital city. The convention at Guthrie was followed by another at Frisco, 25 miles west, at which the efforts of Guthrie were effectually checked. Each town sought only to block the schemes of the others, and it became necessary to await the will of Congress in providing a Territorial Government. In these initial efforts party lines were not drawn, but at the beginning of this year, when early action by Congress organizing Oklahoma as a Territory seemed certain, party conventions were called, and party organizations and committees established. A convention of Republicans met at Oklahoma City in January, and a convention of Democrats at the same place in March, at which the usual partisan resolutions were passed, and the complete party machinery for the coming political contests was provided.

The Organic Act.—On May 2, President Harrison signed the bill creating Oklahoma Territory. The first section of this act declares that—

All that portion of the United States now known as Indian Territory (except so much as is actually occupied by the five civilized tribes, and the Indian tribes within the Quapaw Indian Agency, and except the unoccupied part of the Cherokee Outlet), together with that portion of the United States known as the Public Land Strip, is hereby erected into a temporary Government by the name of the Territory of Oklahoma. The portion of the Indian Territory included in said Territory of Oklahoma is bounded by a line drawn as follows: Commencing at a point where the 95th meridian crosses the Red river, thence by said meridian to the point where it crosses the Canadian river, thence along said river to the west line of the Seminole country, thence along said line to the north fork of the Canadian river, thence down said river to the west line of the Creek country, thence along said line to the northwest corner of the Creek country, thence along the north line of the Creek country to the 96th meridian, thence northward by said meridian to the southern boundary line of Kansas, thence west along said line to the Arkansas river, thence down said river to the north line of the land occupied by the Ponka tribe of Indians, from which point the line runs so as to include all the lands occupied by the Ponka, Tonkawa, Otoe and Missouria, and Pawnee tribes of the Indians, until it strikes the south line of the Cherokee Outlet, which it follows westward to the line of the State of Texas, thence by the boundary line of the State of Texas to the point of beginning. The Public Land Strip, which is included in said Territory of Oklahoma, is bounded east by the 100th meridian, south by Texas, west by New Mexico, north by Colorado and Kansas. Whenever the interest of the Cherokee Indians in the land known as the Cherokee Outlet shall have been extinguished, and the President shall make proclamation thereof, said outlet shall thereupon, and without further legislation, become a part of the Territory of Oklahoma. Any other lands within the Indian Territory not embraced within these boundaries shall hereafter become a part of the Territory of Oklahoma whenever the Indian nation or tribe owning such lands shall signify to the President of the United States, in legal manner, its assent that such lands shall so become a part of said Territory of Oklahoma, and the President shall thereupon make proclamation to that effect. Congress may at any time hereafter change the boundaries of said Territory or attach any portion of the same to any other State or Territory of the United States without the consent of the inhabitants of the Territory hereby created.

It is further provided that the district known as Greer County shall not be included in the new Territory until the title thereto has been adjudicated to be in the United States, and the Attorney-General is directed to bring suit in the United States Supreme Court against the State of Texas to determine the rightful title to said county. A Governor, Secretary, Chief Justice, two Associate Justices, a United States Attorney, and a United States Marshal for the Territory shall be nominated by the President, and appointed by and with the consent of the Senate. A Territorial Legislature, consisting of a Council and House of Representatives, shall be elected biennially by the people, and shall hold biennial sessions lasting not over sixty days, except that the first session may continue one hundred and twenty days. The Territory is divided into seven counties, the county seats of which are provisionally named. The Governor is directed to define the boundaries of these counties prior to the first election. He is also directed to obtain a census of the people, upon the basis of which he shall fix the boundaries of election districts and apportion the members of the Legislature to be chosen in each. He shall appoint a day for the first Terri-

torial election, and for the meeting of the first Legislature, which shall be held at Guthrie. Certain laws of the State of Nebraska are declared to be in force until after the adjournment of the first session of the Legislature. At the first election the people of each county shall vote for a name for the county, the name having the highest number of votes being adopted.

First Election.—The first official act of Gov. Steele was to issue a proclamation on May 24 defining the boundaries of the counties. Several weeks elapsed before a reliable census of the population could be obtained, and his proclamation establishing the election districts and apportioning among them the members of the Legislature was not issued till early in July. In the apportionment then made it was provided that one member of the Lower House should be elected from the Territory at large. Aug. 5 was fixed as the date of the first election. Territorial conventions were called by the political parties, at which candidates for the office of Representative-at-Large were nominated. The Democratic Convention declared strongly in favor of separate schools for colored children, while the Republican platform was silent on this question. The election resulted in the choice of Milton W. Reynolds, the Republican candidate, over the Democratic and Farmers' Alliance nominees. Members of the Legislature were chosen as follows: Council, Republican 6, Democrats 5, Farmers' Alliance 2; House, Republicans 18, Democrats 8, Farmers' Alliance 4. Including the Representative-at-Large, the total Republican strength in the Lower House was therefore 14. At the same election the following names were selected by the people for the seven counties established by the organic act: Beaver, Canadian, Cleveland, Kingfisher, Logan, Oklahoma, and Payne.

On Aug. 9 Representative-at-Large Reynolds died from the effects of overexertion in the canvass. A special election was at once ordered and the Republican candidate was again successful. A vacancy in one of the legislative districts, caused by the death of the member-elect, was also filled by a special election.

Legislative Session.—The day appointed by Gov. Steele for the meeting of the first Legislature was Aug. 27. Both Houses were organized by the Democrats and Alliance members, aided by the Republicans from Oklahoma City. George W. Gardenhire (Alliance) was elected President of the Council, and H. A. Daniels (Alliance) was chosen Speaker of the House. The Oklahoma City Republicans who deserted their party on this occasion were induced to do so, as they claimed, by promises of the Alliance members to favor that city as the Territorial capital in return for their vote for the Alliance candidates. The capital removal question occupied the attention of the Legislature for nearly three months, and its discussion caused numerous scenes of disorder and aroused bitter hostility between the factions. A bill locating the capital at Oklahoma City was passed in the early part of October, but under such circumstances of intrigue and disorder as to lead the Governor to interpose his veto. Another bill, locating the capital at Kingfisher City, passed both Houses on Nov. 10, but this was also vetoed. The strife then ceased, as the Governor was known to be opposed to any change, and no factions could

pass any bill over his veto. In the remaining days of the session a large number of important measures passed, including a code of laws for the Territory which is a compilation from the Dakota, Indiana, Nebraska, and Illinois statutes. An agricultural college was established in Payne County, and a normal school was located in the city of Edmond, on condition that the people of that vicinity should give \$5,000 and 40 acres of land to the institution. A stringent libel law was enacted. Murder was made a capital crime. Foreign insurance companies doing business in the Territory were required to pay a heavy license fee. A school law was enacted which leaves to each district the determination of the question whether mixed or separate schools for white and colored pupils shall be maintained. Nearly every district has voted for separate schools. A license law was passed which imposes a fee of \$200. An additional fee may be charged by the city, which shall not be less than \$100 nor more than \$500. The session adjourned on Dec. 24.

Delegate to Congress.—On Nov. 4 an election was held for Delegate to Congress. A convention of the Republican party nominated David A. Harvey, a Democratic convention nominated J. G. McCoy, and the Farmers' Alliance supported Samuel Crocker. The Republican candidate was elected by the following vote: Harvey, 4,478; McCoy, 2,446; Crocker, 1,529.

Relief Measures.—The Governor, on reaching the Territory, found much distress prevailing among the settlers, many of whom had expended everything in their efforts to reach the Territory. Moreover, by reason of the drought, the crop prospects for the season were unfavorable, and in many places the crops had already been ruined. In view of the certainty of greater suffering during the autumn and winter, the Governor addressed a letter to the President, asking immediate relief from Congress. On Aug. 8 the President transmitted this letter to Congress and recommended relief measures. A bill was promptly passed appropriating the unused balance of the appropriation to the Mississippi flood sufferers, amounting to about \$47,000, for aid to destitute people of the Territory. Early in November Gov. Steele sent a message to the Territorial Legislature saying that large inroads had already been made on the appropriation of Congress, and that, as cases of destitution were daily increasing, the fund would be exhausted in a few weeks. Pursuant to the Governor's recommendation, the Legislature passed a memorial to Congress praying for further immediate relief. This memorial was laid before Congress early in January, 1891. Late in 1890 the Santa Fe and Rock Island Railroad Companies rendered timely aid by bringing about 25,000 bushels of seed wheat into the Territory and loaning it to needy farmers without interest.

The Cherokee Outlet.—On Feb. 17 President Harrison issued a proclamation reciting that the portion of Indian Territory known as the Cherokee Strip or Outlet had been occupied for some time by certain persons for grazing under contracts or leases with the Cherokee nation of Indians, and declaring that, as it was held by the Attorney-General of the United States, that the Cherokee nation, whatever its right to the strip might be, had no right to make such grazing

contracts or leases, no cattle or live stock should hereafter be brought upon said strip, and that all cattle or other live stock should be removed not later than Oct. 1, or as much sooner as the lands might be lawfully opened to settlement. The proclamation was construed by many persons to mean the immediate opening of the strip to settlement, and the President found it necessary to issue another proclamation, dated March 15, warning the people that the entrance of settlers upon the strip was unlawful, and that they would be at once removed. These proclamations were enforced without difficulty.

The Cherokee Commission, whose members were appointed early in the year, was authorized by the act of Congress creating it to treat with these tribes and purchase as much of their lands as possible, as well as to secure from the Cherokees the cession of nearly 7,000,000 acres known as the Cherokee Outlet.

ONTARIO, PROVINCE OF. The Legislature opened on Jan. 30, this being the last session of the Sixth Parliament. In the speech from the throne, the Speaker referred to the imperial act that had been passed fixing the northern and western boundaries of the province, a question long in dispute. He regretted that the question of the Land-Improvement fund, which had been in dispute with the Quebec Government had not been amicably settled, and it would be necessary to submit the matter to the courts for arbitration. A bill would be introduced providing for English to be taught in all French schools throughout the province. Bills would also be introduced dealing with the questions of liquor license and education in public schools.

Elections.—On June 2, Premier Mowatt addressed a circular letter to his constituents in the North Riding of Oxford, dealing mainly with the questions of separate schools and Roman Catholic influence in Ontario. In this he denies that the Roman Catholic hierarchy exercise any controlling influence in Ontario, and maintains that the Protestant reformers hold complete sway and will continue to sustain the present Government. The attempts by the Opposition to excite Protestants in Ontario through the agitation against the Jesuit Estates act of Quebec, had altogether failed, in proof of which was the fact that Protestants and Catholics were found voting together in support of the Government. Referring to the Separate-Schools ballot, which Mr. Meredith wanted to make compulsory, the Protestants of Ontario would always oppose it; although as a Protestant, he (Mr. Mowatt) was opposed to separate schools, yet as they had been granted to the Roman Catholics and guaranteed by the British North America act, there was no power in the provincial Legislature to abolish them.

The elections for the Legislative Assembly took place on June 5, with the following results: Conservative losses: West Victoria, North Perth, South Grey, North Grey, North Bruce, South Norfolk, East Durham, East Hastings, West Hastings, East Victoria—10. Liberal losses: East Simcoe, Hamilton, Lincoln, Welland, Prince Edward, North Ontario, East Elgin, North Renfrew—8.

The following are the Government (Liberal) majorities since 1883: 1883, 15; 1886, 24; 1890, 27.

Legislative.—Among other bills introduced during the session beginning Jan. 30 were the following:

To amend the Ballot act and provide for the secrecy of the ballot at elections for members of the Legislative Assembly, by Mr. Wood (Conservative), of Hastings. The bill was defeated.

To amend the Public and Separate Schools act, by Hon. Mr. Ross (Liberal), of Middlesex. The bill was opposed by Mr. Gibson, whose amendment was carried.

Mr. Creighton (Conservative), on March 18, moved a vote of want of confidence in the Government, which was defeated by a large majority.

On March 20, the Assembly passed a bill granting aid to the Toronto University, which was destroyed by fire on Feb. 14, when damage to the extent of \$500,000 was sustained.

Mr. Craig brought in a bill for the granting of aid to poor schools in the province, which was passed without opposition.

OREGON, a Pacific Coast State, admitted to the Union Feb. 14, 1859; area, 96,030 square miles. The population, according to each decennial census since admission, was 52,465 in 1860; 90,923 in 1870; 174,768 in 1880; and 313,767 in 1890.

Government.—The following were the State officers during the year: Governor, Sylvester Pennoyer, Democrat; Secretary of State, Auditor, and Insurance Commissioner, George W. McBride, Republican; Treasurer, George W. Webb, Democrat; Superintendent of Public Instruction, E. B. McElroy, Republican; Railroad Commissioners, J. H. Faull, George W. Colvig, and Robert Clow; Chief Justice of the Supreme Court, William W. Thayer; Associate Justices, Reuben S. Strahan and William P. Lord.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Baker.....	4,616	6,764	2,148
Benton.....	6,403	8,650	2,247
Clackamas.....	9,260	15,238	5,978
Clatsop.....	7,222	10,016	2,794
Columbia.....	2,042	5,191	3,149
Coos.....	4,584	8,574	4,040
Crook.....	.....	3,244	3,244
Curry.....	1,208	1,709	501
Dooglas.....	9,596	11,564	2,968
Gilliam.....	.....	8,600	8,600
Grant.....	4,208	5,080	777
Harney.....	.....	2,529	2,529
Jackson.....	8,154	11,455	3,301
Josephine.....	2,485	4,573	2,088
Klamath.....	.....	2,444	2,444
Lake.....	2,804	2,604	* 200
Lane.....	9,411	15,198	5,787
Lincoln.....	12,676	16,265	3,589
Malheur.....	.....	2,601	2,601
Marion.....	14,576	22,994	8,418
Morrow.....	.....	4,205	4,205
Multnomah.....	25,208	74,884	49,676
Polk.....	6,601	7,855	1,257
Sherman.....	.....	1,792	1,792
Tillamook.....	970	2,999	2,029
Umatilla.....	9,607	15,351	5,744
Union.....	6,650	12,044	5,394
Wallowa.....	.....	8,561	8,561
Wasco.....	11,120	9,138	* 1,982
Washington.....	7,082	11,972	4,890
Yamhill.....	7,945	10,693	2,747
Total.....	174,768	313,767	138,999

* Decrease.





Finances.—The State is practically free from debt, there being only \$2,335.35 in bonds and warrants outstanding, on which interest has long since ceased, and which are payable on presentation at the State treasury.

The report of the Treasurer for the two years ending Jan. 11, 1891, is as follows: Balance in all funds on Jan. 11, 1889, \$243,378.39; total receipts for the biennial period, \$2,299,239.38; total disbursements for the same period, \$2,309,373.48; balance in all funds Jan. 11, 1891, \$233,144.29.

The total assessed valuation of property for 1890 was \$101,593,341, an increase of nearly \$16,000,000 in two years. The State tax rate for general purposes was 5½ mills, for the university ¼ mill, and for the militia ¼ mill, making a total of 6 mills.

County Debts.—The total debt of Oregon counties is \$782,015, an increase of \$570,248 in ten years. Of this sum all except \$15,000 is a floating debt. One third of the counties have no debt.

Education.—For the year ending June 30, 1889, there were 273 students enrolled at the State University. Of these, 185 were in the collegiate department, 25 in the school of law, 18 in the school of medicine, and 45 in the school of music. The cost of maintaining the institution was \$20,926.61. For the succeeding year, ending June 30, 1890, the enrollment increased to 292, and the cost of maintenance to \$21,052.42. There were 182 students in the collegiate department, 33 in the school of law, 19 in the school of medicine, and 80 in the school of music. At the State Normal School, at Monmouth, there were 216 pupils during the school year ending in 1890. A new building, erected at a cost of about \$26,000, was dedicated in May, the money being raised by local subscription.

Insane Asylum.—The number of patients at the State Insane Asylum on Jan. 1, 1889, was 526, of whom 358 were male and 168 female. During the two years following 444 persons were admitted and 342 discharged, leaving 628 persons under treatment on Dec. 31, 1890, of whom 444 were male and 184 female. The cost of maintaining the institution for the biennial period was \$171,097.

Prisons.—During the two years ending Dec. 31, 1890, there were 603 persons confined in the State Prison, of whom 324 remained at the close of the period. Of this number, 227 were employed in the foundry under contract, 10 were incapacitated for labor, and the remainder were employed in the shoe and tailor shops, kitchen, laundry, field, and garden. The running expenses of the institution for the two years amounted to \$72,283.26. During that period the foundry company paid into the State treasury for convict labor \$41,179.41, and there was received from other labor of prisoners and from the United States for board the sum of \$5,360.82, thereby reducing to the extent of these payments the cost of the institution to the State.

The trust confided to the Board of Education by the act of the last Legislature in the expenditure of \$30,000 for the purchase of a reform-school farm and the erection of a building has been executed. A farm of over 380 acres, on which is valuable water power, has been secured, and an attractive building has been erected.

In order to secure the erection of such building a deficit of about \$16,000 was necessarily incurred.

Militia.—The State militia consists of three regiments of infantry, one battery of light artillery, and two troops of cavalry, numbering 1,702 officers and men. The expenditure for its support during the year amounted to \$17,684.30.

The act passed by the Legislature of 1889 authorizing county courts, whenever they deem it proper, to build armories in cities of over 5,000 inhabitants has been declared unconstitutional by the courts, because the act was not defined by its title.

Banks.—On Oct. 2, 1890, there were 37 national banks in the State, with total resources amounting to \$17,558,322.15, an increase of 6 banks and \$3,050,384.45 in resources in one year.

Mining.—The production of precious metals in the State during 1890 is reported by Wells, Fargo & Co. to be \$1,036,000, of which \$965,000 was the value of the gold product and \$71,000 of the silver product.

River Improvements.—The Governor, in his message to the Legislature of 1891, says on this subject:

The Board of United States Engineers designated for the purpose of suggesting improvements at the Dalles of the Columbia have estimated the cost of a portage railroad between The Dalles and Celilo, on Columbia river, which, it says, would be adequate for the present commerce of the river, and which could be built in one year at \$431,500. It has also estimated the full cost of a boat railway at \$3,575,356. The breakwater at the mouth of the Columbia has effected a marvelous change, and the expenditure of a quarter of a million of dollars in breakwaters along the lower Columbia, where its width now permits shoaling, would give a good and sufficient channel for large ships from Portland to the sea.

Political.—On April 16 a State convention of the Union party (which was formed on Sept. 14, 1889, by a fusion of Prohibitionists, Greenbackers, Labor men, and other persons dissatisfied with the two leading parties) met at Oregon City and nominated the following candidates for State officers: For Secretary of State, Nathan Pierce; for Treasurer, E. F. Walker; for Superintendent of Public Instruction, T. C. Jory; for State Printer, J. A. Power; for Member of Congress, J. A. Bruce. The nomination of a candidate for Governor and for justice of the Supreme Court was referred to the State executive committee, the members of which were chosen by the convention. The following is a portion of the platform:

The Government should provide for such arbitration as will prevent strikes and other injurious methods of settling labor disputes.

A graduated income tax is the most equitable system of taxation, placing the burden of Government on those who can best afford to pay, instead of laying it on the farmers and producers, and exempting millionaires, bondholders, and corporations.

We denounce the non-taxable bond as a criminal device by which, with or without the guilty connivance of assessors, the wealth of the unscrupulous escapes taxation. We therefore demand that the further issue of non-taxable bonds, whether State or municipal, be prohibited by law; and that the assessment law of the State be so modified as to forbid deductions for such indebtedness as is not taxable with-

in the State, and that all property be assessed in proportion to its rental values.

We favor an amendment to the Constitution providing for the election of Federal Senators by direct vote of the people.

We are in favor of declaring eight hours a legal day's labor in factories, mines, and workshops and on public works.

On April 17 a Republican State convention met at Portland and nominated the following ticket: For Governor, David P. Thompson; for Secretary of State, George W. McBride; for Treasurer, Philip Metschan; for Superintendent of Public Instruction, E. B. McElroy; for Justice of the Supreme Court, Robert S. Bean; for Member of Congress, Binger Hermann; for State Printer, Frank C. Baker. Resolutions were adopted demanding free coinage of silver and liberal pension laws, favoring the adoption of the Australian ballot system, denouncing trusts, and expressing sympathy with the cause of home rule in Ireland. Other resolutions were as follow:

We demand the immediate forfeiture by Congress of the land grant of the Northern Pacific Railroad from Wallula to Portland.

That we are heartily in favor of the passage through Congress of the bill providing for a boat railway at the Dalles of the Columbia river.

We favor the enactment of a law in the interest of the wage-earning classes in factories, mines, workshops, and public works fixing eight hours as a day's work.

We are in favor of an early survey of unsurveyed public lands in this State that the same may be claimed and occupied and tillers speedily procured by *bona fide* settlers under the laws of the United States.

The Democratic State Convention met at Portland on April 24 and renominated Gov. Penneyer by acclamation. For Secretary of State the nominee was William M. Townsend; for Treasurer, G. W. Webb; for Superintendent of Public Instruction, A. Le Roy; for Justice of the Supreme Court, B. F. Bonham; for Member of Congress, Robert A. Miller; for State Printer, John O'Brien. The platform favors free coinage of silver and the election of United States Senators by direct vote of the people, advocates a liberal but discriminating pension law, and further declares as follows:

We not only favor the forfeiture of the Northern Pacific Railroad land grant from Wallula to Portland, but we also favor the immediate unconditional forfeiture of all unearned land grants and the restoration of the lands to the public domain.

We urge upon Congress the passage of such appropriations and the adoption of such measures as will tend most speedily and effectively to opening the Columbia and Willamette rivers to free navigation.

We unqualifiedly urge the adoption in this State of the Australian system of voting.

We approve of declaring eight hours a legal day's labor in factories, mines, and workshops and upon public works; and we also favor laws giving the laborer a first lien on the product of his labor.

The Democratic candidates for Governor and for Justice of the Supreme Court were adopted by the Union party, and the candidate of that party for State Printer having withdrawn, the Democratic candidate for that office was also adopted. At the election on June 2 the entire Republican ticket was elected with the exception of the candidate for Governor, who was defeated by Gov. Penneyer. The latter received 38,919

votes to 33,786 for the Republican candidate. For Secretary of State the vote was: McBride, 39,672; Townsend, 31,014; Pierce, 2,803. For member of Congress Hermann received 40,176 votes, Miller 30,263, and Bruce 2,856. Members of the State Legislature were chosen at the same time as follow: Senate, Republicans 23, Democrats 7; House, Republicans 41, Democrats 19.

ORIGINAL-PACKAGE DECISION, THE.
a decree of the United States Supreme Court in May, 1890, that had an important bearing upon the police powers of the several States. In November, 1884, the Supreme Court asserted the right of a State to prohibit the manufacture and sale of intoxicating liquors; and again in January, 1885, the same court declared that a State may restrict its public laundries both as to locality and as to the hours of employment. (See "Annual Cyclopaedia" for 1884, pages, 429-431.) In December, 1887, the Supreme Court affirmed the power of the State to adopt and enforce the principle of prohibition, and the lack of power in the Federal Government to interfere in any manner with the State's exercise of this right. This was in the case of certain brewers of Kansas, who claimed that the adoption and enforcement of the principle of prohibition by that State was contrary to the fourteenth amendment of the Constitution, which says: "No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor shall any State deprive any person of his life, liberty, or property without due process of law." The opinion was concurred in by all except Justice Field, who concurred in so much of it as sustained the validity of the act of Kansas prohibiting the sale of intoxicants that are manufactured in the State after the passage of that act. But he was not prepared to say that the prohibition of the manufacture of such liquors, if intended for exportation, can be sustained; nor that the State can forbid the sale, under proper regulations for protection of the health and morals of the people, of any article that Congress may authorize to be imported. He was not ready to admit that New York, or any other coast State, can thus defeat an act of Congress. Neither could he concur in the validity of the thirteenth section of the prohibition act of Kansas, because he believed it authorized the destruction of property without due process of law. He could not see upon what principle the Legislature, after closing the brewery, can order the destruction of liquor which it admits may be valuable for medicinal or mechanical purposes. What was known as the "original-package decision of 1890" declared that liquor may be carried into any State and sold in the original packages, without reference to local prohibitory or restrictive laws. In this declaration it was asserted that States are not permitted to stop the importation of liquor into their territory; and also that they are required to permit its sale in the package in which it was brought in. The first of these assertions met with no unfavorable comment, but the second was criticised widely. One of the Federal judges concurring in the disputed decision declared that his view of the bearing of the interstate commerce clause of the Constitution on the traffic within the States was set forth by the Supreme

Court sixty years ago. On the other hand, it was argued that the national Constitution guarantees the importation into a State of any article the introduction of which is not forbidden by Congress, but there its guarantee ends; it does not give the absolute right to traffic in the imported commodity. Within a few days after the decision, the Supreme Court of Maine reversed the decision of the lower court, which convicted the sellers of original packages of liquors imported from the provinces or other countries, the claim being that the State had no right, under the Constitution of the United States, to interfere with the business. This decision was based upon an identical case in Iowa that had just led to the original-package decision by the United States Supreme Court. A few days later, another decision was made, in Armstrong County, Pa. An original-package store had been opened in a local Prohibition town in that county, the county having also a Prohibition majority. The seller asserted that he was acting as an agent, under power of attorney, of a brewing company in Ohio. He was prosecuted, on the allegation that he was avoiding the laws by selling liquor without a license; and this he admitted. But he asserted that he had not violated any local liquor laws by selling these "original packages," and he proved them to have been unbroken, and to have been duly sealed and stamped as required by the United States law. The judge, in his charge, declared that if these were the original packages, then the seller had a right to make the sale, under the recent decision of the Supreme Court, and that he did not violate the liquor law of Pennsylvania in selling without a license. The seller was acquitted by the jury. These instances brought the matter directly before both branches of Congress, then in session, there being a universal demand that a bill should be passed placing liquor imported in original packages within the jurisdiction of State police power, on delivery by the common carrier to the owner or consignee. The Senate, on May 29, 1890, passed a bill to limit the effect of the regulations of commerce between the States and foreign countries in certain cases. This provided that liquors transported into any State or Territory, for use, consumption, sale, or storage, shall, on their arrival, be subjected to the operation and effect of the laws of such State or Territory, enacted in the exercise of its police powers, and shall not be exempt therefrom

by reason of their being introduced in the original packages. The Senate thus committed itself to a bill that concerned liquors only; but in the House of Representatives a feeling prevailed that the bill should cover many other articles beside liquors. In the House a substitute was prepared making the proposed law applicable to every article of interstate commerce. The constitutional provision was also affirmed that there shall be no discrimination in favor of citizens or products of like character of the State where any given article is held or offered for sale, and the reaffirmation of the right of police regulation for the sake of the public health. Provision was made against discrimination by particular States in favor of articles produced within those States, and care was taken to prevent the measure from authorizing anything like State prohibition of interstate commerce, or the virtual levying of duties by one State upon the products of another. While the bill was in doubt between the two houses, the leaders of the liquor dealers cautioned the retailers not to make haste to use their advantage under the Supreme Court decision, because Congress was likely to enact a law that would govern the decision of the Supreme Court on the final appeal. It being evident that the Senate would never agree to the more comprehensive measure that had passed the House, a long debate took place, so that many of the members might place themselves on record. In this debate an original package was, by general consent, declared to be a case containing not fewer than one dozen bottles, or, when not in bottles, not less than five gallons. Finally a compromise measure was agreed upon, which passed both Houses and became a law in July, 1890. This compromise measure enacted that all fermented, distilled, or other intoxicating liquors or liquids transported into any State or Territory, for use, consumption, sale, or storage, shall, on arrival in such State or Territory (or remaining therein), be subject to the operation and effect of the laws of such State or Territory, enacted in the exercise of the police powers, to the same extent, and in the same manner as if such liquors or liquids had been produced in such State or Territory, and shall not be exempt therefrom by reason of being introduced there in original packages or otherwise. Since this enactment several original-package cases have been dismissed in the courts of the States.

P

PARAGUAY, a republic in South America. According to the Constitution of Nov. 25, 1870, the Senate is composed of 13, and the Chamber of Deputies of 26 members, elected directly by the suffrage of all citizens over eighteen years of age. The President for the four years ending Nov. 25, 1894, is J. Gonzalez, who succeeded Gen. Patricio Escobar.

Area and Population.—The area of Paraguay is 91,970 square miles. According to the census taken in 1886, the population is 329,645, comprising 155,425 males and 174,220 females. The population of Asuncion, the capital, was

24,838. Immigration increased from 100 in 1886 to 563 in 1887, 1,064 in 1888, and 2,395 in 1889. The immigrants are chiefly Italians, Spaniards, French, and Germans. The foreign population in 1886 was estimated at 15,000, including 5,000 Argentines, 2,000 Italians, 1,100 Germans, 600 Brazilians, 600 Swiss, 500 Frenchmen, and 150 English. The country has been depopulated by wars, except in the central districts. In the spring of 1890 fresh revolutionary disturbances broke out. The Government formerly owned three fourths of the land, but has recently sold the greater part of it, mostly in large blocks.

Finances.—The revenue is mainly derived from customs, though of late years the largest amount has been realized from sales and leases of lands. The amount of the revenue in 1889 was 2,333,094 pesos, the peso being nominally worth \$1, though in exchange the paper money is 35 or 40 per cent. below par. The proceeds of sales and leases of public lands amounted to 829,360 pesos; customs receipts, 1,379,754 pesos; other receipts, 123,980 pesos. The expenditure for 1889 was 1,194,890 pesos, of which the Interior Department received 494,438 pesos; Foreign Affairs, 41,628 pesos; Finances, 138,048 pesos; Justice, Worship, and Public Instruction, 157,104 pesos; and War and Marine, 363,672 pesos.

The domestic debt on Jan. 1, 1890, amounted to 477,674 silver pesos. The foreign debt was reduced, by a compromise effected in London on Dec. 4, 1885, to 4,038,500 pesos in gold, on which interest was to be paid at the rate of 2 per cent. for the first five years, at 3 per cent. for the five years succeeding, and after that at 4 per cent. per annum until it is extinguished. The debt was to be paid off by an amortization fund of .5 per cent. per annum, beginning at the end of the eleventh year.

Commerce.—The imports in 1889 were valued at 2,900,000 pesos, and the exports at 1,720,000 pesos. The principal articles of export are yerba, tobacco, hides, oranges, and timber. The entries at the port of Asuncion in 1889 were: 303 steamers and 630 sailing vessels, the total tonnage being 36,735; while 302 steamers and 628 sailing vessels, of 33,735 tons were cleared.

The railroads in 1888 had a length of only 152 kilometres.

The telegraph line from Paso to Asuncion, which was completed in March, 1884, bringing Paraguay into communication with other nations for the first time, in 1889 transmitted 23,437 messages.

PATRIOTIC LEAGUE, AMERICAN, an organization incorporated Dec. 12, 1889, with headquarters in New York city. Its platform embraces the following principles: 1. Restriction of immigration; 2. Extension of the time required for naturalization; 3. An educational qualification for every voter; 4. One general non-sectarian American free-school system; 5. Public funds and public property not to be used for sectarian purposes; 6. American lands for American settlers. These views are to be enforced by legislation. Any American citizen of good moral character is eligible to membership. One of the objects of the League, toward which its energies are particularly directed, is to secure constitutional and legislative safeguards for the protection of the common-school system and other American institutions, to promote public instruction in harmony with such institutions, and to prevent all sectarian or denominational appropriation of public funds. In order to carry out this idea, which is incorporated in the constitution of the League, it is proposed that the Constitution of the United States shall be amended so that "no State shall pass any law respecting an establishment of religion, or prohibiting the free exercise thereof, or use its property or credit, or any money raised by taxation, or authorize either to be used, for the purpose of founding, maintaining, or aiding, by appropri-

tion, payment for services, expenses, or otherwise, any church, religious denomination, or religious society, or any institution, society, or undertaking that is wholly or in part under sectarian or ecclesiastical control." In advocating the adoption of this amendment, the League declares that both the Republican party and the Democratic party are practically committed to this amendment, and argues that it will commend itself to all intelligent and loyal citizens of alien birth, who, having renounced their allegiance to every foreign prince or potentate, are ready to uphold the institutions of the republic to which, as a condition of their citizenship, they have pledged their allegiance. To the American Government they have a right to look for protection against all attempts to subject them, by force or undue influence, to any authority unknown to the Constitution; or, under whatever pretext, to abridge their rights or control their duties as American citizens. They know, from their European experience, and from the lessons of history, that complete separation of Church and state is essential to the integrity of State institutions and to the peaceful enjoyment, by citizens of all nationalities and of differing faiths, of liberty of conscience, freedom of worship, and the right of self-government. The League declares that to the public-school system is owing a large part of the happiness and greatness of the United States, and that all Americans regard education as a sacred debt which the present generation owes to the future. The children of to-day should be taught the history, the principles, and the spirit of the founders of the republic, in order that they may transmit in its purity to their descendants the heritage they have received. The enfranchisement of the colored race and the increasing flood of foreign immigration render more conspicuous than ever the importance of a common system of education in accord with American ideas. Foreign schools, with doctrines, ideas, and methods at variance with the Constitution of the United States, are not favored. The situation demands a united effort on the part of the American press and all good citizens, and especially on the part of parents, in their own States and in their own neighborhood, to free the elementary schools from partisan or denominational control, and to bring them to the highest standard of excellence as regards moral, mental, and industrial education. Incidentally, the League hopes to remove politics from the control of corrupt politicians.

The executive committee of the provisional committee has power to transact all business connected with the extension of the League during the time when the provisional committee is not in session. Each member of the provisional committee is empowered to act as a deputy for the extension of the League. He must notify the secretary of the locality in which he proposes to operate, and must act only by written authority. When local or State leagues are ready for organization, the applications for charters must be made direct to the secretary of the provisional committee, who alone is authorized to receive payment and issue the charter. The consent of a majority of the members of the executive committee is required before any charter can be issued. Charters may

be signed by the president or vice-president of the provisional committee and the secretary. When five local leagues are organized in any State a State league may be formed. When one fourth of all the States are organized, a committee of conference may be called by the executive committee and signed by the president, which conference committee shall consist of not fewer than five delegates from each State; and action may then be taken to decide whether a national convention shall be called and who shall be present thereat.

PATRIOTIC ORDER OF THE SONS OF AMERICA, an organization founded in Philadelphia in 1847, and reorganized in 1866. The objects of the order are the inculcation of pure American principles and institutions; opposition to foreign interference in any of the affairs of state and to organized disregard of the laws of the land; and the development and maintenance of the public schools. Its members are to make themselves familiar with the rights and duties of American citizenship. It is also declared that the two most cherished ideas of this nation have been from the beginning the absolute separation of church and state and the freedom of the common schools from all ecclesiastical interference, and the members of the order pledge themselves to work to establish these ideas. A further object of the organization is to have some test more reliable than a five years' residence in the United States applied to intending citizens. The order is both non-sectarian and non-political. The total membership is over 250,000, with three camps in New York city. It is a beneficiary as well as a patriotic organization, caring for its members and their families in times of trouble.

PENNSYLVANIA, a Middle State, one of the original thirteen, ratified the Constitution Dec. 12, 1787; area, 45,215 square miles. The population, according to each decennial census, was 434,373 in 1790; 602,365 in 1800; 810,091 in 1810; 1,047,507 in 1820; 1,348,233 in 1830; 1,724,033 in 1840; 2,311,786 in 1850; 2,906,215 in 1860; 3,521,951 in 1870; 4,282,891 in 1880; and 5,258,014 in 1890. Capital, Harrisburg.

Government.—The following were the State officers during the year: Governor, James A. Beaver, Republican; Lieutenant-Governor, William T. Davies; Secretary of State, Charles W. Stone, who resigned on Nov. 30 to accept an election to Congress, and was succeeded by J. H. Longenecker; Treasurer, William Livsey, succeeded on May 5 by Henry K. Boyer; Auditor-General, Thomas McCamant; Secretary of Internal Affairs, Thomas J. Stewart; Attorney-General, W. S. Kirkpatrick; Superintendent of Public Instruction, D. J. Waller, Jr., appointed in February; Insurance Commissioner, J. M. Forster; Secretary of Agriculture, Thomas J. Edge; Chief Justice of the Supreme Court, Edward M. Paxson; Associate Justices of the Supreme Court, James P. Sterrett, Henry Green, Silas M. Clark, Henry W. Williams, James T. Mitchell, and J. B. McCollum.

Population.—The following table shows the population of the State by counties, as determined by the national census of this year, compared with the population as shown by the national census of 1880:

COUNTIES.	1880.	1890.	Increase.
Adams.....	39,455	39,456	1,081
Allegheny.....	353,869	531,559	196,090
Armstrong.....	47,641	46,747	* 594
Beaver.....	39,605	50,977	10,473
Bedford.....	84,929	88,644	3,715
Berks.....	122,307	137,827	14,730
Blair.....	52,740	70,866	18,126
Bradford.....	58,541	59,233	692
Bucks.....	65,656	70,615	1,959
Butler.....	52,536	55,839	2,903
Cambria.....	46,811	66,875	19,564
Cameron.....	5,159	7,398	2,079
Carbon.....	81,923	85,624	6,701
Centre.....	37,922	43,269	5,347
Chester.....	18,481	39,877	5,896
Clarion.....	40,828	36,802	* 3,926
Clearfield.....	48,408	69,565	26,157
Clinton.....	26,278	28,685	2,407
Columbia.....	82,469	86,892	4,428
Crawford.....	68,007	65,824	* 3,283
Cumberland.....	49,977	47,271	1,294
Dauphin.....	76,148	96,977	20,829
Delaware.....	56,101	74,683	18,582
Elk.....	12,800	22,239	9,439
Erle.....	74,688	66,074	11,886
Fayette.....	58,842	80,006	21,164
Forest.....	4,885	8,482	4,097
Franklin.....	49,855	51,483	1,578
Fulton.....	10,149	10,187	* 12
Greene.....	28,273	38,295	662
Huntingdon.....	38,554	38,751	1,797
Indiana.....	40,527	42,175	1,648
Jefferson.....	27,985	44,005	16,070
Juniata.....	18,227	16,656	* 1,572
Lackawanna.....	59,269	142,088	52,819
Lancaster.....	139,447	149,095	9,648
Lawrence.....	84,812	87,517	4,205
Lebanon.....	88,476	48,181	9,635
Lehigh.....	65,969	76,681	10,662
Luzerne.....	139,065	201,203	68,138
Lycoming.....	57,496	70,579	13,096
McKean.....	49,565	46,563	4,298
Mercer.....	56,161	55,734	* 417
Mifflin.....	19,577	19,966	419
Monroe.....	20,175	20,111	* 64
Montgomery.....	96,494	123,290	26,796
Montour.....	17,465	15,645	177
Northampton.....	70,812	84,230	13,908
Northumberland.....	58,123	74,698	21,575
Perry.....	27,522	26,276	* 1,246
Philadelphia.....	847,170	1,046,964	199,794
Pike.....	9,663	9,412	* 251
Potter.....	13,797	22,778	8,981
Schuylkill.....	129,974	154,168	24,199
Snyder.....	17,797	17,651	* 146
Somerset.....	38,110	37,817	4,207
Sullivan.....	8,073	11,620	3,547
Susquehanna.....	40,854	40,098	* 261
Tioga.....	45,814	52,813	6,999
Union.....	16,905	17,820	915
Venango.....	45,670	46,640	2,970
Warren.....	27,951	37,285	9,604
Washington.....	55,418	71,125	15,737
Wayne.....	38,513	31,010	* 2,503
Westmoreland.....	75,626	112,819	34,788
Wyoming.....	15,598	15,891	293
York.....	87,841	99,489	11,648
Total.....	4,282,891	5,258,014	975,123

* Decrease.

Finances.—The following is a statement of the public debt on Nov. 30, 1890: Relief notes, act of May 4, 1841, \$96,145; interest certificates unclaimed, \$4,448.38; interest certificates outstanding, \$13,038.54; domestic creditor, \$25; total, \$113,656.92. Five-per-cent. bonds, \$18,414.70; 6-per-cent. bonds, \$2,000; 6-per-cent. Chambersburg certificates, \$148.66; total, \$20,563.36. Interest bearing debt: 3½-per-cent. bonds, \$1,063,500; 4-per-cent. bonds, \$6,732,100; 5-per-cent. bonds, \$3,303,100; 6-per-cent. agricultural scrip bond, \$500,000; 6 per cent. on proceeds of experimental farms sale, \$17,000; total, \$12,215,700. This makes an aggregate indebtedness

of \$12,349,920.28. The public debt Nov. 30, 1889, was \$13,856,971.28. The reduction during 1890 was \$1,507,051.

The balance in the State treasury on Nov. 30, 1889, was \$3,969,587.53; the total receipts of the ensuing fiscal year were \$8,625,919.10, and the total expenditures \$8,168,861.18, leaving a balance in the treasury on Nov. 30, 1890 of \$4,426,645.45. The receipts for the year were derived from the following sources: Tax on corporation stock and limited partnerships, \$1,935,396.45; tax on gross receipts (corporations), \$513,805.70; tax on gross premiums, \$45,560.98; tax on bank stock, \$413,368.43; tax on net earnings or income, \$100,393.36; tax on loans, public and private, \$696,441.48; tax on personal property, \$923,938.94; tax on wills, deeds, etc., \$152,269.42; tax on collateral inheritances, \$670,371.12; tax on fertilizers, \$8,190; foreign insurance companies, \$354,023.96; eating-house licenses, \$5,141.91; retail liquor licenses, \$305,270.49; wholesale liquor licenses, \$324,801.50; brewers' licenses, \$81,879.23; bottlers' licenses, \$40,511; retailers' licenses, \$269,992.93; billiard licenses, \$22,286.28; bonus on charters, \$168,710.96; accrued interest, \$106,882.34; Allegheny Valley Railroad Company, \$247,499.98; United States Government, \$178,567.19; commutation of tonnage tax, \$865,654.94; fees of public officers, \$89,386.85; other sources, \$107,526.17. The expenditures include the following items: Expenses of State officials and departments, \$1,304,541.05; loans redeemed, \$1,507,051; interest on loans, \$581,320.07; premiums on loans redeemed, \$123,850.50; charitable institutions, \$731,823.53; indigent insane, \$408,650.93; penitentiaries, \$97,390; improvement of Philadelphia Harbor, \$200,000; common schools, \$2,345,493.24; National Guard, \$228,065.84; soldiers' orphans' schools, \$169,029.15; Gettysburg monument, \$77,631; Soldiers' and Sailors' Home, \$81,150; Reform School, \$25,756.20; Industrial Reformatory, \$61,460; House of Refuge, \$60,000; State College, \$49,560; other objects, \$117,740.83.

County Debts.—The total debt of Pennsylvania counties is \$8,654,943, a decrease of \$1,126,441 in ten years. The bonded debt is \$8,513,606, and the floating debt \$141,337. Nearly every county has a debt.

Education.—For the school year ending in 1890 the following statistics of public schools are reported by the Superintendent: Number of school districts, 2,326; number of schools, 22,365; number of graded schools, 10,750; number of male teachers, 8,382; number of female teachers, 16,111; whole number of teachers, 24,493; average salary of male teachers per month, \$39.86; average salary of female teachers per month, \$30.54; average length of school term in months, 7.38; number of pupils enrolled, 965,444; average number of pupils, 682,941; cost of tuition, \$6,937,689.97; cost of building, purchasing, and renting, \$2,738,418.41; cost of fuel, contingencies, debt, and interest paid, \$3,252,313.72; total cost of tuition, building, fuel, and contingencies, \$12,828,422.10; State appropriation, \$2,000,000; estimated value of school property, \$35,435,963. The above figures cover all the schools of the State. For the city of Philadelphia alone the figures are as follow: Number of schools, 2,607; number of male teachers, 93; number of female

teachers, 2,514; average salary of male teachers per month, \$133.20; average salary of female teachers per month, \$67.17; number of pupils in school at end of year, 116,889; average attendance 108,124; paid for teachers' salaries, \$1,499,102.76; paid for houses, additions, and repairs, \$607,095.70; paid for books, fuel, stationery, and contingencies, \$595,354.79.

There was an increase for the year in the entire State of 11,085 pupils, 576 teachers, 476 schools, and \$1,026,161.28 in total cost of the school system. The State appropriation of \$2,000,000 for schools was distributed among the districts at the rate of \$1.383 per taxable, except in those counties where a portion was used to increase the salaries of superintendents.

The statement of the thirteen normal schools for the year shows a total of 5,420 pupils in the normal departments; income for the year, \$762,319.32; expenses, \$679,087.02; value of real estate, \$1,870,865.68.

Soldiers' Orphans' Schools.—Under the provisions of the act of May, 1889, the soldiers' orphans' school commission therein provided for has been organized. The number of schools is now but three, under the immediate direction of the commission, and a limited number of children are placed in three private institutions. These changes have largely reduced the cost of supporting these children.

Reformatory.—The State Industrial Reformatory, at Huntingdon, was opened on Feb. 15, 1889, since which time 478 persons have been received. Of these, 97 have been paroled and 13 discharged, leaving 368 in the institution on Dec. 31, 1890. There is an industrial department, where the inmates are taught useful trades, and a farm leased by the managers gives an opportunity to those who have a taste for agriculture. An arrangement was also made for the manufacture of rattan and reed chairs, by which the prisoners have earned \$7,625.05. Brick making has also been carried on, and much labor has been done upon the Reformatory grounds.

Militia.—The State militia consists of 509 officers and 7,747 enlisted men, of whom 7,365 are infantry, 219 artillery, and 173 cavalry. The number of men in the State available for military duty is 692,094. The annual appropriation made by the United States Government to the National Guard has been increased, and through this it has been possible to arm the entire guard with the improved Springfield rifle. The equipment has been in other respects much improved.

Insurance.—During 1889 the life-insurance companies of the State issued 3,860 policies, insuring \$10,412,944 upon the lives of residents of the State, a decrease in comparison with the business of the preceding year of 118 policies, and an increase of \$126,130 in insurance. In addition to the above there were issued during the year 3,832 industrial policies, insuring \$360,565. Companies of other States issued 15,795 policies in the State, insuring \$52,721,621. In addition, there were issued in the State 272,632 industrial policies, insuring \$28,821,479, making a total of policies issued by companies of other States of \$288,428, insuring \$81,543,100, and an aggregate by all companies of 296,450 policies, insuring \$92,348,477.

The entire fire, marine, and inland business

done in the State by all companies, home and foreign, stock and mutual, in the year 1889 was \$10,122,327.72.

Flood-Relief Commission.—This commission, appointed by the Governor in 1889 to superintend the disbursement of moneys received for the Johnstown sufferers, made a detailed report of its doings in July. The contributions received and turned over to the commission were as follows: By Gov. Beaver, \$1,236,146.45; from the Philadelphia Relief Committee, \$600,000; from the Pittsburgh Relief Committee, \$560,000; from the New York Relief Committee, \$516,199.85; a total of \$2,912,346.30. The expenditures of the commission in the Conemaugh valley were \$2,592,936.68; in the State outside of the Conemaugh valley, \$246,475.26; general and office expenses, \$5,728.89; a total of \$2,845,140.83. The sum of \$67,205.57 remained in the hands of the commission. The most careful investigation places the number of victims by the flood in the Conemaugh valley at 2,142. Of these, 1,115 were found and identified, 636 were found and not identified, and 391 were missing. Ninety-nine whole families were lost. One hundred and twenty-four women were made widows and 965 children orphans or half-orphans. The sum of \$183,281 was distributed among the widows, giving them about \$1,500 apiece, and there has been set aside for their children a sum which, when paid, will amount to \$108,500. Each orphan will receive about \$50, annually until the age of sixteen.

The amount of loss in the Conemaugh valley, as given in the sworn statements of claimants, reached the sum of \$9,674,105. The local district committees estimate the loss at about one fourth less than this.

High License.—The operation of the Brooks high-license law in the cities of the State during the year was generally satisfactory. In April the license court of Philadelphia granted 1,173 retail licenses for that city, a decrease of 31 from the number of licenses in 1889. Wholesale licenses were granted to the number of 919, an increase of 279. In the case of the latter class of licenses, the court has not the same discretion to restrict their number as in case of retail licenses. This defect in the law will probably be cured by the next Legislature.

Coal.—The production of anthracite coal in Pennsylvania during the calendar year 1889 was 40,665,152 tons of 2,240 pounds (equal to 45,544,970 tons of 2,000 pounds), valued at the mines at \$65,718,165, or an average of \$1.61½ per long ton. The quantity actually carried to market was 35,407,710 tons during the year 1889; 1,329,580 were used by employes and sold to local trade near the mines, and 3,518,696 tons were consumed in and about the mines.

The average number of days worked during the year 1889 by all collieries was 194. The suspension of mining during periods aggregating about one third of the year was caused mainly by the inability of the market to absorb a larger product. The number of persons employed during the year was 125,229.

Political.—The Republican State Convention was called to meet at Harrisburg on June 25. In the preliminary caucuses there was an earnest contest between the supporters of George W. Delamater and D. H. Hastings for the gubernatorial nomination.

The first ballot in the convention resulted as follows: Delamater, 84 votes; Hastings, 64; E. A. Montooth, 30; Charles W. Stone, 15; E. S. Osborn, 8; and H. C. McCormick 3. On the second ballot Delamater received 105 votes and was nominated. For Lieutenant-Governor the nominee was Louis A. Watres, and for Secretary of Internal Affairs Thomas J. Stewart. The platform contains a strong approval of Senator Quay, favors a *per diem* service pension for every soldier and sailor in the civil war, legislation to insure fair elections everywhere, and laws forbidding contract labor and pauper immigration. The following resolutions also appear:

Ballot reform is, and will remain, the watchword of our party in every State. We charge the members of the next General Assembly with the duty to pass such laws, and if necessity should arise, to provide for such changes in the Constitution of our State as will insure to every voter perfect secrecy and freedom in exercising his right of suffrage.

We recommend that the surplus revenue derived from State taxation be used to lessen the taxation now laid upon real estate for local purposes by applying it, so far as it will in legislative wisdom avail, to the increase of the appropriation for the support of the common schools, and to making appropriation for the care of the indigent insane, for the expenses of the jury system, and of holding the general elections.

We recommend that the local system of taxation be so reformed as to permit the taxation of money capital for local purposes to such an extent as to enable the local authorities to reduce the rate of taxation on real estate to an equitable basis.

The State convention of the Democratic party met at Scranton on July 2. Ex-Gov. Robert E. Pattison was nominated for Governor, Chauncey F. Black for Lieutenant-Governor, and William H. Barclay for Secretary of Internal Affairs.

The platform condemns Senator Quay, and contains the following declarations:

That ballot reform is necessary, and to this end we recommend the adoption of such a system as the Australian ballot law.

That State and local reform is necessary in order that the taxation for county, municipal, and township purposes may be equally adjusted and the unjust discrimination against land remedied.

That the law requiring that the surplus in the State treasury shall be invested in State or United States bonds must be observed and executed.

On Aug. 20 a State convention of the Prohibition party met at Harrisburg and nominated Charles Miller for Governor, Charles E. Hyatt for Lieutenant-Governor, and William T. Dunn for Secretary of Internal Affairs. The platform, in addition to the usual declarations against the liquor traffic, demands the enforcement of the Sunday laws, favors the Australian ballot system, an educational qualification for suffrage, and equal taxation on all classes of property.

The Prohibition nominee for Governor declined the nomination, and on Sept. 24 the State committee nominated John D. Gill in his place. On the same date the executive committee of the Union Labor party met at Philadelphia and nominated a State ticket and adopted a platform, but their principles failed to attract more than a scattering support.

The canvass was marked by the formation of independent Republican organizations in Philadelphia and other cities and towns, which were

openly opposed to the election of Delamater, whose nomination, it was claimed, had been forced upon the party against the wishes of its better element by the scheming of politicians.

So widespread was the dissatisfaction in the Republican ranks with the candidate for Governor, that at the election in November he was defeated by more than 16,000 votes, although the normal Republican plurality in the State, as shown at the election of 1889, was about 60,000. The vote of each candidate was as follows: For Governor: Pattison, 464,209; Delamater, 447,655; Gill, 16,108. For Lieutenant-Governor: Watres, 467,371; Black, 445,006; Hyatt, 17,048. For Secretary of Internal Affairs: Stewart, 468,939; Barclay, 443,478; Dunn, 17,105. Members of the State Legislature were elected at the same time as follow: Senate, Republicans 31, Democrats 19; House, Republicans 122, Democrats 79, Fusion 3.

The election in the congressional districts resulted in the choice of 18 Republicans and 10 Democrats, a Democratic gain of three seats.

There was a special election in May in the Third Congressional District to fill a vacancy in the Fifty-first Congress caused by the death of Hon. Samuel J. Randall on April 13. At this election Richard Vaux, Democrat, was chosen, almost without opposition, there being no Republican candidate. A special election in the Fourth District to fill the vacancy caused by the death of Hon. William D. Kelley resulted in the choice of John E. Reyburn, Republican, for the unexpired term. On Nov. 4 Charles W. Stone, Republican, was chosen for the unexpired term of Lewis F. Watson, deceased, in the Twenty-eighth District.

PERSIA, an empire in central Asia. The reigning Shah is Nasreddin, born July 18, 1831. He is absolute master of the lives and property of his subjects, but has been a mild ruler and has gained the affection of the people. He is fond of field sports, a lover of music, an artist, and something of a poet, and well acquainted with European politics. His least attractive quality is his avarice. Besides his priceless treasure in jewels, he has amassed, mainly from the gifts that flow in on every occasion from ministers, nobles, officials, and merchants, about \$15,000,000 in personal property. His 60 wives and concubines have borne him 40 children, of whom there are living 7 sons and 12 daughters, several of the latter being married to influential men. The Valiahd, or heir to the throne, is Mozaffar-oddin, the eldest son from a wife of princely rank, born March 25, 1853. In accordance with a tradition of the Kadjar dynasty, he is governor of the northwestern province of Azarbijan, which he can not leave without especial permission from the Shah. The eldest son of the Shah, Sultan Massud Mirza, the Zill-es-Sultan or "Shadow of the King," who was formerly the Shah's favorite, ruler over seven provinces and commander of a well-drilled army of 18,000 men, was stripped of all his dominions in 1888 except Ispahan. The most powerful man after the Shah is now Mirza Ali Askar Khan, a young man of humble origin, who is Minister at the same time of the Interior, the Court, the Customs and the Treasury. The Shah's third adult son, Kauran Mirza, is Minister of War, Commander-in-chief of the Army, and Governor of Teheran.

The area of Persia is estimated at 628,000

square miles. The population is about 8,000,000, including 2,000,000 nomads. Teheran, the capital, has 210,000 inhabitants, and Tabriz or Tauris has 180,000.

Finances.—The receipts of the treasury for the year 1888-'89 were estimated at 40,064,500 francs, of which 5,882,350 francs were derived from customs. The expenditures amount to 37,000,000 francs, the army requiring 14,000,000 francs, the court 3,750,000 francs, and the clergy, pensions, etc., 10,200,000 francs.

Commerce.—The imports, consisting of cotton goods, china and glassware, paper, iron, copper, sugar, tea, etc., amount to about 132,000,000 francs, and the exports to 78,000,000 francs, the chief articles being silk, tobacco, skins, carpets, cotton, opium, gums, woolen fabrics, dates, cereals, and rice. Although the routes to northern Persia from the Caspian are closed against all except Russian goods, by the road from the Turkish port of Trebizond, on the Black Sea, to Tabriz, the largest trade-distributing center in the country, two thirds of the cotton goods of the Tabriz market are supplied from England, the rest coming from Russia, while the woolens come from Austria and Germany, and the crockery and glassware from Austria. Even at Teheran English cottons and Austrian woolens and glassware compete successfully with Russian goods. The opening of the Karun river to English navigation has proved almost a futile concession, owing to the annoying proceedings of the local officials, yet a British company has placed a steamer on the river and run it at a loss, for the sake of the advantages of the route, which will shorten the land journey to the northern marts from the Persian Gulf by nearly one half.

The Army.—The official army list, which has no foundation in facts, represents the total strength of the Shah's army as 200,000 men, including 50,000 militia. The nominal strength capable of mobilization is 90,392, composed of 16,350 irregular or nomad cavalry, levies raised from the frontier tribes and officered by their khans, hardy and brave material, wonderful horsemen and good marksmen, but in the absence of discipline and of generalship in their commanders of little value when opposed to European troops; 2,493 trained cavalry, about one half of whom are trained, while equipped on the model of the German dragoons and Uhlans, and the other half are the vaunted Cosseck regiments at Teheran, which have been admirably drilled by Russian officers; 63,700 regular infantry, recruited on tribal and territorial principles, though without system, who only need good equipment, fair pay and sustenance, and capable leaders to make them equal to the troops that beat the Turks and the Afghans in the last century; 4,000 artillery, including 540 officers, a semi-disciplined body; 80 camel artillery, an obsolete and useless corps; 169 officers, the relics of the Austrian corps; 3,600 militia. Of all these troops, the number of men returned as actually serving with the colors is 43,889, viz., 12,427 irregular cavalry, 2,493 disciplined cavalry, 25,000 regular infantry, 1,800 artillery, with 164 serviceable guns, 169 Austrian corps, and 2,000 militia; and it is supposed that allowances should be made for false returns and furloughs, that would reduce the total to 30,000.

PERU, a republic in South America; area, 1,137,000 square kilometres or 437,000 square miles; population in 1876, 2,621,844, not including 350,000 uncivilized Indians. The Senate has 40 members, and the House of Representatives 80. Every Peruvian who is married or is master of a trade or profession or pays taxes or is over twenty-one years of age and knows how to read and write, is qualified to vote. The President for the four years ending Aug. 10, 1894, is Col. Remigio Morales Bermudez, successor of Gen. Andres Avelino Caceres.

Finances.—The receipts of the treasury in 1884 were 6,724,117 silver soles. (The silver sole, of the nominal value of \$1, is worth about 70 cents, and the paper sole not more than 5 cents.) The sources of revenue are: Customs, yielding 4,317,221 soles; internal-revenue taxes, 1,159,638 soles; state railroads, 722,705 soles; post-office, 135,319 soles; telegraphs, 21,716 soles; miscellaneous, 367,518 soles. The total expenditures were 6,573,627 soles, of which 193,213 soles were for the diplomatic service, 2,231,161 soles for the Interior Department, 648,840 soles for justice, 1,141,915 soles for financial administration, 1,676,563 soles for the army and navy, 589,963 soles for the state railroads, and 91,972 soles for extraordinary purposes.

The foreign loans of 1869, 1870, and 1872 amounted to £32,000,000, without reckoning interest accrued since 1876. The last two loans were secured on the nitrate deposits and on the general revenue. The nitrate deposits have been seized by Chili. The arrears of interest in 1889 amounted to £22,998,651. The Grace-Donoughmore contract, which was ratified in January, 1890, releases the Government from the debts on condition that the state property, including railroads, mines, guano deposits, and lands shall be transferred to the bondholders, who undertake to complete the existing lines of railroad. The debt was originally incurred for the construction of the railroads already built. The Chilean Government relinquished certain guano deposits, valued at £2,250,000, to the bondholders. A Peruvian company, limited, has been formed in London to carry out this arrangement. Of the £32,000,000 of bonds, £30,500,000 had already been bought in and handed over to agents of the Peruvian Government in London, to be canceled before September, 1890. The railroads at the end of sixty-six years revert to the state. The internal debt, paying 1 per cent. interest, amounted to 109,287,000 soles in 1888, and the paper money to 83,747,000 soles. The market price of the bonds is only 11 per cent. of their face value, and the paper currency is no longer a medium of exchange. The length of completed railroads in 1889 was 1,625 miles. Their cost, including those ceded to Chili, was \$180,000,000.

Commerce.—Peru produces cotton, cacao, coffee, rice, sugar, Indian corn, wine, cinchona, coca, India-rubber, dye woods, the wool of the vicuña, alpaca, and llama, nitre, guano, gold, and silver. Articles of food, cotton, and woolen goods, chemicals and drugs, furniture, and recently coal and machinery, are the principal imports. The largest trade is with Great Britain, although in recent years Germany has successfully competed for a large share. The imports in 1887 amounted to 8,658,531 soles, and the ex-

ports to 8,872,287 soles. The foreign trade passes mostly through the port of Callao, where 501 vessels, of 249,873 tons, were entered, and 507, of 340,332 tons, cleared in 1888. The debt settlement has opened the way for a considerable influx of foreign capital. An English company has established petroleum extracting and refining works at Talara, near the coast and north of Payta. The oil is used for motive power on the Oroya Railroad. Other capitalists have begun the cultivation of cotton on a large scale, and a company has been formed in London to reopen the Santa Barbara quicksilver mine in Ayacucho. The silver mines are attracting attention in the United States and Europe. The restoration of the viaduct at Verrugas on the Oroya Railroad, which was destroyed by a tempest in 1889, will reopen communication between the mineral regions in the interior and the port of Callao.

Political Events.—The presidential election of 1890, although less stormy than usual, was not free from revolutionary plots and civil disorders from the beginning of the popular canvass in March to the counting of the electoral vote in Congress on Aug. 2. There were three candidates.—Dr. Francisco Rosas, President of the Senate, who had the support of the politicians in Congress; Col. Bermudez, a soldier distinguished for successes in the field and for heroic bravery, who was backed by the Executive and by the army; and Nicolas de Pierola, who was proclaimed dictator after a sanguinary revolution in December, 1879. In March a serious disturbance occurred at Huanta, in the province of Ayacucho, between the partisans of Bermudez and Rosas, and many lives were lost. On April 5 the Government issued a decree forbidding political demonstrations. On the same day Gen. de Pierola, who was treated as an irregular and revolutionary candidate, but from his wide popularity was considered dangerous, was got out of the way by having him arrested on the charge of attempting to incite insurrection and thrown into prison, where he was kept during the entire contest. His candidature was thereupon withdrawn, and his great following took no part in the elections. The electoral board excluded electors who were alleged to have been irregularly chosen in the interest of Bermudez, and some of the members were placed under arrest by order of the Government. The suspicion of illegal manipulation caused the tension to be prolonged until the final count. When Congress was examining the returns Dr. Rosas and his friends were assaulted in the streets of Lima. Col. Bermudez was declared to be elected by 2,900 votes, against 1,300 given for Rosas, and was inaugurated on Aug. 10. Alexander Solar is first and Dr. Bergono second Vice-President. The Cabinet is composed of the following members: Mariano N. Valcarcel, Premier and Minister of Public Works; Alberto Elmore, Minister of Foreign Affairs; Ismael Quintana, Minister of Finance and Commerce; Col. Belisario Suarez, Minister of War; Garcia Chavez, Minister of Justice.

The trial of Pierola was begun, but for some unknown reason the proceedings were discontinued. His friends in Congress raised a protest against his arbitrary incarceration, and subsequently the vigilance of his jailers was relaxed

sufficiently for him to make his escape in October. A revolutionary conspiracy to overthrow the Government and restore Pierola to power ended in a *fiasco* on Dec. 21, when Col. Arturo Morales Toledo entered the artillery barracks and uttered a *pronunciamiento*. A battalion of infantry from Ayacucho, which was in the fort, was faithful to the Government. These soldiers killed the leaders, mostly officers of the army, and frustrated an attempt to seize the store of rifles in the arsenal. Pierola was a few miles away, waiting to be signaled by the firing of cannon to make his entry into the capital.

Foreign Relations.—Boundary difficulties with Bolivia and Ecuador have been amicably adjusted. The French Government, in behalf of the Dreyfus claim that has been rejected by the Peruvian Government, made a proposal to enforce it through the intervention of Chili. That republic was invited to adopt the claim, and on the strength of it to declare permanent the occupation of Tacna, which, according to the treaty of peace, is to be terminated or rendered definitive by the decision of the popular vote of the department at the end of ten years from Oct. 20, 1883, the date of the treaty. The American minister interceded unofficially in the autumn of 1890 in behalf of Francis Penzotti, a Methodist minister, who is an Italian citizen but the agent of the American Bible Society. He conducted in private, since public services in any but the Roman Catholic religion are forbidden by law, a missionary chapel in Callao, and made some converts. For this he was arrested in July and kept in jail several months without trial.

PHONOGRAPH, an instrument for recording and reproducing articulate sound. It was invented by Thomas A. Edison in 1878, and has since been greatly improved. It acts on the well-known law of acoustics, that sound consists of a series of waves spreading from a first cause, as ripples from a stone dropped in water. The original phonograph consisted of a shaft passing through

When revolved, the cylinder was given a longitudinal motion by means of a screw thread in the shaft, and the steel point, following the un-

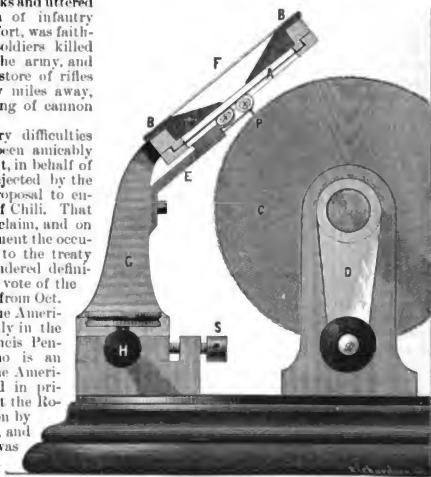


FIG. 2.—DIAPHRAGM AND POINT IN POSITION—SECTIONAL VIEW. A, diaphragm; P, point; C, cylinder; D, crank; BB, rubber disk.

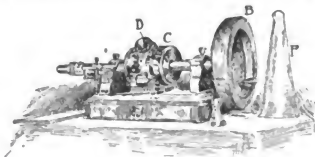


FIG. 1.—THE ORIGINAL PHONOGRAPH.

B, balance-wheel with crank; C, cylinder; D, diaphragm; F, funnel.

a cylinder made to revolve by means of a balance wheel and crank (Fig. 1).

In the surface of the cylinder a screw thread was cut, and there was laid over it a delicate sheathing of tinfoil. Placed against this foil was a steel point projecting from the center of a diaphragm, composed of a thin sheet of iron. A sectional view of this diaphragm and point in position is shown in Fig. 2.

derlying lines on the cylinder, reproduced them through the sensitive tinfoil.

If a sound wave struck the diaphragm, the vibration communicated through the point made the line traced in the foil of unequal depth, and where the sound was made by the human voice, these indentations were visible speech.

Tones of all kinds produced each its own vibration and consequent record on the sensitive foil. In order to reproduce the sounds, the point was withdrawn and the cylinder revolved backward to its original position. Again applied, the point passed along the uneven groove it had already made, when the vibrations of the diaphragm were exactly repeated, and sounds resembling the original ones were produced.

In this first phonograph, only loud or sharp sounds were given back with any certainty, and even these were weak in volume and had an unpleasant metallic quality. This was due to the properties of the tinfoil receiving the record, and also to a lack of delicacy throughout the various parts of the machine. Another serious defect, preventing its perfect reproduction of sound, lay in the fact that the slightest variation in the speed with which the cylinder was turned altered the key of the tones given out. Thus, a high soprano voice, if repeated slowly, became a deep bass, and a low voice was correspondingly high if given rapidly.

Sometimes the steel point in going back over

its uneven lines would tear the foil, thus destroying the record; and great difficulty was experienced in replacing an engraved sheet, in such a way as to bring the lines exactly in their former position. Hence, although the phonograph was enthusiastically received and created a wide-spread curiosity and wonder, it was found to be of so little practical value that it was soon relegated to the realm of scientific toys.

In 1886 J. S. Taintor, working along the lines followed by Mr. Edison, produced a talking machine, which was called the *graphophone*, or *phonograph-graphophone*. This invention did not differ from the original phonograph in principle, but improved upon it in many essential particulars. Finished, it rested on a table, with power supplied by a treadle, like a sewing machine (Fig. 3).

Fitted to the shaft by means of clamps was a cylinder composed of a preparation of wax. This substance received the vibrations instead of the tinfoil. A recording diaphragm, having a sharp steel point attached, was composed of aluminum, and a repeating diaphragm of mica carried a smooth steel point through the engraved line, giving back the sounds without injuring the impression. The cylinders were only six inches long and an inch and a half in diameter, and

tions it could be readily removed and another adjusted in its place.

The wax surface of a cylinder was so durable that a recorded communication could be repro-

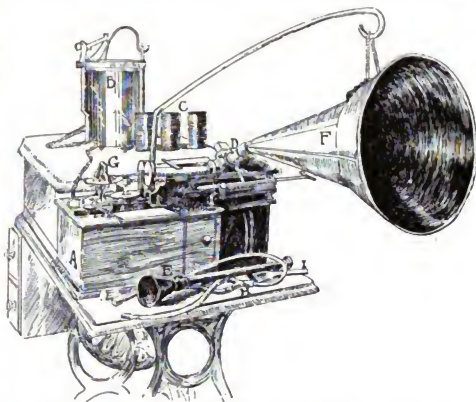


FIG. 4.—THE MODERN PHONOGRAPH.

A, phonograph box, containing motor; B, battery; C, cylinders; D, diaphragm; E, speaking-tube; F, funnel; G, governor; H, reproducing-tube; I, chip-brush for cylinders.

duced hundreds of times without impairing its distinctness. Dictation addressed to the instrument was spoken through a trumpet, such as is sometimes used by the deaf; and in order to hear it give back its communication, a rubber tube, supplied with glass or vulcanite tips for the ears, was attached to the diaphragm.

A sensitive governor provided that the machine should be driven at a uniform rate of speed, thus preventing sounds from being returned in a false key.

In 1887 Mr. Edison resumed experiments with the phonograph, and after about two years of patient effort brought the invention to a high state of perfection. Completed, it rests on a polished mahogany box not quite a foot wide and less than two feet long (Fig. 4). Within this box is an electric motor, by which the cylinder is revolved at a uniform rate of speed. A glass diaphragm is used both for receiving and reproducing sounds, and sharp and smooth points of sapphire record and read the vibrations. By means of a large funnel, varying in size and form for specific purposes, tunes played by orchestras or addresses delivered by public speakers can be recorded and given out so as to be heard in a large room; or this funnel can be removed and the sounds carried to the ear by means of a rubber tube attached to the diaphragm as with the phonograph-graphophone.

By this latter method typewriters take dictation from the phonograph without its voice being heard by other persons present. The whole instrument is of great delicacy and repeats the



FIG. 3.—THE PHONOGRAPH-GRAPHOPHONE.

A, cylinders; B, recording diaphragm with speaking-tube attached.

could easily be sent through the mails. As soon as one was covered with its spiral lines of vibra-

sounds recorded by it with clearness, though they are diminished in volume.

When it is giving out a record of orchestra music, the different instruments can be distinctly heard, or soprano, bass, and tenor voices recognized singing in unison. On account of the loss of volume in sound, a second phonograph does not successfully take its record from a first.

The record as engraved on the wax surface of a cylinder is called a phonogram, and Fig. 5 shows a magnified section of a cylinder with the

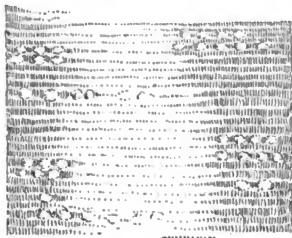


FIG. 5.—MAGNIFIED SECTION OF CYLINDER, WITH PHONOGRAM.

phonogram of a piece of instrumental music. The deep dents apparent on this are caused by loud or sudden sounds.

The principle of the phonograph has been applied to many ingenious uses. A tiny instrument incased in the body of a doll and operated by means of a crank at the back, repeats nursery rhymes, sings songs, or makes speeches in a shrill childish voice. Clocks are also made to announce the hour in spoken words. As a stenographer, the phonograph already occupies a wide field. One of its cylinders will hold from one thousand to fourteen hundred words. Inclosed in a case, a cylinder can readily be mailed to a distant point, and placed under the needle there, will repeat its message in the very tones of the sender.

The possible applications of this instrument for recording sounds instead of written language are numerous. Among them may be mentioned the taking of evidence in court, the giving of the correct pronunciation and accent of a foreign language, and the furnishing of a means of communication for the blind.

PHYSICS, PROGRESS OF, IN 1890.
Constitution of Matter.—Sir William Thomson (Edinburgh Royal Society, Feb. 3) gives some new estimates of molecular distances. He proves, by mathematical considerations, that the ratio of the latent heat of vaporization of a liquid to six times its surface tension gives approximately the number of molecules per lineal unit. The results for several liquids are as follow :

LIQUID.	Molecules per lineal centimetre.
Water.....	50,000,000
Alcohol.....	52,000,000
Ether.....	30,000,000
Chloroform.....	15,000,000
Carbon-bisulphide.....	19,000,000
Turpentine.....	30,000,000
Petroleum.....	40,000,000
Wood spirit.....	70,000,000

No dependence can be placed on the relative values of the numbers. The noteworthy point is their complete agreement in order of magnitude. (See also *Density*, below.)

Mechanics. Gravity.—C. V. Boys, by using the delicate quartz fibers that were first made by him, has succeeded in showing the Cavendish experiment on the attraction of two masses of lead, in an ordinary room, with no protection against draughts. His whole apparatus does not exceed the size of an ordinary galvanometer, and he uses a simple galvanometer lamp and scale. With this the mutual attraction of two bird shot can be shown ; whereas, with the most delicate suspensory fibers hitherto known, the attraction of large masses could be demonstrated with great difficulty, and only by taking extraordinary precautions. De Sparre (Paris Academy of Sciences, Oct. 6) has deduced a complete formula for the motion of Foucault's pendulum in air, which shows that the resistance of the atmosphere has an indirect influence on the velocity of rotation of the plane of oscillation, besides diminishing the amplitude of the vibration, and causing a deformation of the oscillation curve. Dr. Lehmann, in a discussion of ancient Babylonian weights and measures (Berlin Physical Society, Nov. 22), gave the opinion that the Babylonians knew the length of the seconds pendulum. At Babylon this is 992.5 millimetres, and the Babylonian foot is almost exactly one third of this length.

Density.—Dr. G. Johnstone Stoney ("Philosophical Magazine," June) maintains that the distinction between different parts which is implied in the word "density" does not exist in the elemental ether, and that in it the element of volume is identical with the element of mass. Assuming Thomson's vortex-atom theory of the constitution of matter, the density of a lump of iron, for instance, is nothing but a function of the primary motions that prevail in a certain portion of space, the "matter" of the iron being nothing but a tangle of vortex motions in the ether. In the dynamics of the ultimate motions of this ether there is no such physical quantity as density. Only when an accumulation of these primary motions is lumped together, and where we investigate the drifting about of these accumulations, do we find need of such a conception, as a substitute for having to take separately into consideration some of the motions that are really going on.

Elasticity.—Prof. Richard Threlfall, of Sydney, Australia, has measured the elastic constants of C. V. Boys's quartz threads. The results given in C. G. S. units are as follow :

Simple rigidity at 22° C.....	2 8815 × 10 ¹¹
Young's modulus at 23° C.....	5.1785 × 10 ¹¹
Bulk modulus.....	1.485 × 10 ¹¹
Temperature coefficient of stiffness from 22° to 98° C.....	-0.00123
Coefficient of lineal expansion from 50° to 80°..	-0.000017
Corresponding temperature coefficient.....	-0.000118.

The limit of allowable twist was one third of a turn per centimetre in a fiber .01 cm. in diameter. Prof. John Perry ("Philosophical Magazine," March) has investigated the behavior of twisted strips of metal, which show curious properties. A straight strip was first permanently twisted so as to leave the axis straight. When force was applied to stretch such a strip there was

slight elongation, with large relative rotation of the ends. Other complicated phenomena were also observed. Ayrton and Perry find that a double-twisted strip of constant length, with initial pull, can be used as a delicate thermometer or galvanometer, owing to its sensitiveness to heat and to the electric current.

Viscosity.—Dr. Carl Barus, of the United States Geological Survey ("Philosophical Magazine," April), has made measurements of the absolute viscosity of matter in all physical states by new methods. He remarks that viscosity is the chief variable of our material environment, and that it nowhere fails to appeal to the senses. It furnishes the chief criterion of the physical state of a body. His results are as follow, given in C. G. S. units:

GASES AND VAPOURS.		VISCOUS FLUIDS.	
Ether at 0°.....	6.8×10^{-4}	Martine glue.....	2×10^8
Hydrogen at 0°.....	8.7×10^{-5}	SOLIDS.	
Air at 0°.....	1.75×10^{-4}	Paraffine at 20°.....	$> 2 \times 10^{11}$
Oxygen at 0°.....	2.12×10^{-4}	Hard steel glass, etc.....	10^{17} to 6×10^{17}
LIQUIDS.		Soft steel.....	6×10^{17} to 6×10^{18}
Ether at 30°.....	9×10^{-4}		
Ether at 10°.....	1.9×10^{-3}		
Water at 97°.....	8×10^{-3}		
Water at 20°.....	1.9×10^{-2}		

The viscosity of gases thus lies between 7×10^{-5} and 2×10^{-4} , that of liquids between 9×10^{-4} and 1×10^{-3} , and that of solids between 10^{11} and 10^{18} . The viscosity of gases decreases on cooling, whereas that of liquids increases.

Liquids and Gases. Solution.—Two opposite theories of the solution of solids in liquids are still held, and each is supported with ability. The upholders of the chemical or "hydrate" theory, who assert that the solid forms definite compounds with the liquid, and that every solution is a mixture of two or more of such hydrates, find new evidence in their support in the curved figures that represent the properties of solutions of various strengths. Such curves show sudden changes of curvature at certain points, which are the same whatever property be examined, and so correspond, it is claimed, to definite hydrates. On the other hand, the advocates of the physical theory—who hold that there is no chemical union, and that the molecules of the dissolved substance mingle freely with those of the solvent in all proportions—claim that, at any rate in weak solutions, the dissolved substance obeys laws analogous to those of gases (see "Annual Cyclopædia," 1889, page 692), and that therefore its molecules must be uncombined with those of the solvent. But even the most active opponents of the chemical theory do not altogether deny the existence of hydrates in strong solutions, and probably the truth is to be found in a union of the two views. Prof. S. U. Pickering (London Physical Society, March 7), in an argument against the physical theory, points out that while, if it be true, the molecular depression of the freezing point of a solution should be independent of the nature of the solvent, the variations, in fact, are from 30 to 60 per cent. He says that on the theory he opposes it should also be independent of the amount of the solvent, but that there is a variation of 40 per cent. J. Stefan (Vienna "Berichte," Nov. 21, 1889) has experimented on the velocity of solution of a prism of rock salt that is inclosed

in metal except at one end. When the free surface was uppermost, the speed of solution was inversely proportional to the distance of the surface from the open end; but when it pointed downward, the velocity was uniform. A prism a metre long would require seventy years for complete solution in the former case, but only two and a half days in the latter; the time varying in one case as the square of the lineal magnitude, and in the other in a simple ratio. Dr. Schultze reports in "Science" his discovery that ordinary beer will dissolve glass. After standing for a few minutes in a glass vessel, the liquid changes perceptibly in taste and odor. This is due to the lead in the glass. One cubic centimetre of beer dissolved in five minutes 6.26 ten millionths of a milligramme of glass. In experiments on solutions of gases, P. Van Buchem (Paris Academy of Sciences, Jan. 13), shows that there is a special state of equilibrium for such solutions when the lower part is cooled and the upper is heated.

Capillarity.—Lord Rayleigh has made a series of valuable experiments on the surface tension of liquids. To test the hypothesis of Marangoni (1871) that the great extensibility of a soap solution is due to the formation of a coating that is caused by the chemical action of the carbon dioxide in the atmosphere, he made observations on a recently formed surface, thinking that the formation of such a pellicle would require time. The wave length of the stationary vibrations of a jet of the liquid enabled him to calculate the tension, and thus in this case the surface could be observed before it was $\frac{1}{10}$ second old. Exact measurement was rendered easy by photography, and it was found that the tension of a surface so recently formed was the same whether the liquid were soap solution or pure water. This evidently supports Marangoni's hypothesis. The same observer (Edinburgh Royal Society, March 27) has observed the action of oil on the motion of camphor on water. Cleanliness is absolutely essential to this motion, which is caused by a difference of tension between the pure water and that which has dissolved the camphor. A mere touch of the finger gives enough oil to the water to stop the motion. The thickness of the film of olive oil necessary to stop the motion was found to be from 1.5 to 2 micro-millimetres. This thickness is far below the range of the ordinary forces of cohesion, for the black portions of a soap bubble are 12 micro-millimetres thick. Yet thinner films were experimented on later (London Royal Society, June 5) in observations on the superficial viscosity of water. Prof. Willard Gibbs, of Yale, has claimed that this also is due to a superficial pellicle, and Lord Rayleigh wished to find whether such a pellicle was caused by contamination. The viscosity was observed by watching the rotation of disks or of rings of wire just touching the surface of the liquid. Water showed no resistance to a shearing stress as exerted by a disk, but quickly stopped a ring with a cross wire, which by rotation tended to deform part of the surface. With a solution of saponine, however, the surface acted as if almost rigid. When the surface was cleaned by means of an air blast, the superficial viscosity disappeared. The films causing this viscosity were only $\frac{1}{10}$ as thick as those necessary to stop the motion of camphor, measuring $\frac{1}{10}$ micro-millimetre or $\frac{1}{100}$

of the wave length of yellow light. Van der Mensbrugghe concludes, from experiments on liquids, especially from the modification of capillary phenomena by local heating and by dissolved substances, that Gauss's theory agrees with the facts, while those of Laplace and Poisson do not. Prof. C. Michie (Edinburgh Royal Society, March 17) has observed surface tension by means of the ripples started by a tuning fork. These were photographed, and the negatives were measured micrometrically. He was thus able to measure the surface tension of mercury, and to prove that it is reduced more than 20 per cent. by strong electrification.

Expansion and Compression.—Prof. A. M. Worthington (London Physical Society, June 20) has measured the extension of a liquid column by three methods—that of the barometer tube, the centrifugal method, and that of slow cooling. He thus submitted water to an extensive force of 7.9 atmospheres, sulphuric acid to 12, and alcohol to 17. The coefficient of extensibility in all cases was much less than that of compressibility. The results are astonishing when it is considered that liquids are usually thought to have no extensibility at all. A. E. Tutton ("Nature," Oct. 16) has found that many liquefied gases expand enormously when heated, as compared with ordinary liquids, the expansion sometimes exceeding that of the unliquefied gas. Thus, the coefficient of expansion of liquid chlorine at 86° is .00346—nearly that of gaseous chlorine, and before the critical temperature of 146° is reached the coefficient is considerably higher than that of the gas. Prof. P. G. Tait, in the report on the physics of the "Challenger" expedition, describes elaborate experiments on the compressibility of water. The average compression of fresh water at 0° C., and at low pressure, is 520×10^{-7} per atmosphere, with the minimum at 66°. The compressibility and the temperature of the minimum are both lowered by increased pressure. At 456.9 atmospheres the average compression is 478×10^{-7} per atmosphere, and the temperature of minimum compressibility is about 30° C. The average compression of sea water is .92 that of fresh, and the minimum is 56° at atmospheric pressure. The depth of a sea six miles deep is reduced 620 feet by the compression due to its own weight. The general level of the ocean is reduced 116 feet by such compression, and if the compressibility of water, infinitesimal as it is, should vanish, 2,000,000 square miles of land would be submerged. Prof. S. U. Pickering ("Philosophical Magazine," November) has examined the curves that represent the varying density of water at different temperatures, and finds that there are changes of curvature at 18° and 10°. He thinks that a liquid is composed of various partially dissociated aggregates of their fundamental molecules; and such complicated bodies would necessarily be unstable. Other liquids, such as ethyl chloride, methyl bromide, carbon disulphide, and the alcohols, show similar changes.

Water Drops.—C. V. Boys (London Physical Society, May 2) has succeeded, by exposures of $\frac{1}{1000}$ second about twenty times a second, in photographing water drops, showing their formation, their breaking away, their oscillation, and their rebound from the liquid surface they

strike. The zoötrope reproduces the phenomena in a very striking manner.

Barometry.—The largest water barometer ever made has been placed in St. Jacques's Tower, Paris. It is 12.69 metres long and 2 centimetres in diameter. It has a special registering apparatus, and is said to be very active during thunder storms.

Sound. Velocity of Propagation.—Gen. A. W. Greely gives the following measurements at very low temperatures:

Temperature.....	-70.9°	-25.7°	-37.5°	-45.6°
Number of observations.....	53	114	164	205
Average velocity in metres per second.....	826.1	817.1	809.1	805.6

The diminution of velocity with the temperature was 0.603 metre per degree. Violle and Vautier (Paris Academy of Sciences, Feb. 3) show that in a cylindrical tube, whatever the impulse, a sound wave tends toward a simple determined form, and that when this is once acquired, the various parts of the wave are propagated with normal velocity. In the open air this is greater than in a tube, where the wave is retarded in inverse ratio to the diameter.

Bells.—Lord Rayleigh ("Philosophical Magazine," January) has experimented on the tones of bells, chiefly with the object of finding the difference between the good and the bad, with respect to the perfect harmony of the various notes each gives. The task of making a perfectly consonant bell is not hopeless, he thinks; but so much tentative work would be required that it is not likely soon to be accomplished. Haweis (1878) says that a "true" Belgian bell gives its dominant note if struck a little above the rim, the third when struck two thirds up, and the fifth near the top; and that a true bell is that in which the third and fifth are heard in right relative subordination to the fundamental. Rayleigh says that many more tones than these usually occur. Five of the bells that he tested gave the following:

I.	II.	III.	IV.	V.
$g - 3$	$a + 3$	$a' \pm 3$	$d' - 6$	$d' + 2$
$g' - 4$	$g' \pm 4$	$a' \pm 6$	$a' \pm 5$	$b' + 2$
$a + 6$	$b' + 6$	$c' \pm 4$	$d' + 8$	$e' + 2$
$d - 3$	$a' \pm 6$	$e' + 6$	$g' \pm 10$	$g' \pm 4$
$f' \pm 2$	$g' \pm 6$	$a' \pm 2$	$b' + 2$	$c' \pm 4 + 8$

The figures after the notes indicate the number of vibrations by which they were out of tune.

Thermophone.—Kalleman, in a recent inaugural at Halle, describes experiments on what he calls a *drahtthermophon*. This consists of a source of sound, a microphone, battery, and stretched wire, one end of which is fastened to a membrane connected with a resonator.

With a variable current the wire lengthened and shortened rapidly, setting the membrane in vibration. The strength of current, the tension of the wire, and its thickness all influenced the strength of the sound; but the length of the wire had nothing to do with it, a sound being obtained with a wire one centimetre long. The direction of current also was without influence, which points to a thermal origin of the sound.

Timbre.—Prof. Rudolf Koenig has made experiments which extend Helmholtz's classical re-

searches on this subject and which do not altogether agree with them. He has shown that when two simple tones interfere two sets of primary beats are produced, "inferior" and "superior," corresponding to the positive and negative remainders obtained by dividing the frequency of the higher tone by that of the lower. Thus, if the frequencies are 74 and 40, the beats are 34 and 6 per second, since we may say that 40 is contained in 74 once with a remainder of 34, or twice, with a remainder of -6. He has shown that the so-called combinational tones are due to the coalescence of beats. By his "wave siren" he proves also that the difference of phase of the elements of a compound note affects its timbre. In this siren a toothed cylinder revolves before a vertical slit through which a stream of air passes. The intensity of the sound varies according to the shape of the teeth, and by shaping them properly the timbre of any compound note can be imitated. It is found thus that the sound of two notes differing in phase by one quarter is distinctly more forcible than that of the same notes differing by three quarters.

Voice Figures.—This name is given by Mrs. Watts Hughes to what are practically Chladni's figures in a viscid medium. A semi-fluid paste is spread on an elastic membrane which is made to vibrate by a steadily sung note. The paste is thrown into beautiful forms that resemble waves, flowers, and trees. In one set of figures, called by Mrs. Hughes "daisy forms," the number of petals increases as the pitch rises.

Heat. Thermometry.—The experiments of Dr. Sydney Young show that the main part of the observed permanent ascent of the zero point of a mercury thermometer, after prolonged heating, is not due to compression of the bulb, as has been supposed. H. Tomlinson supposes that the molecules of all solids, after heating nearly to the melting point, are, after cooling, in a state of constraint. This state would be abolished by repeated heating and cooling, the particles, by what Prof. G. Wiedenmann calls "accommodation," settling into their normal positions. Young, however, says that long-continued steady heating is more effective. J. Puhj has invented a new telethermometer, which has a glass tube of hydrogen, in which is a carbonized thread fastened to an iron spiral. These form two branches of a Wheatstone's bridge. When the temperature changes, the resistances of the two substances change in opposite directions, destroying the balance and affecting a galvanometer at any distance. The instrument will show a change of 0.1°C .

Heat of Vaporization.—E. Mathias, from experiments on carbon dioxide near its critical point, finds that if a curve be constructed with temperatures as abscissæ and heats of vaporization as ordinates, its tangent at the critical point is vertical, making it probable that the latent heat vanishes altogether at the critical point.

Boiling Points.—Carl Barus, of the United States Geological Survey ("Philosophical Magazine," February), has determined the pressure variations of certain high temperature boiling points. In the equation of Dupré, $\log p = A - B/(\theta - C) \log \theta$, where θ is the boiling point and p the pressure, he has found the values of the quantities A, B, and C, for several substances.

C was practically constant for all. Assuming it to be absolutely so, the results were:

SUBSTANCES.	A	B	C
Water.....	19.394	2795	3.868
Sulphur.....	19.776	4458	3.868
Cadmium.....	20.68	7448	3.868
Zinc.....	20.98	8019	3.868
Bismuth.....	21.51	12562	3.868

The same experimenter ("Philosophical Magazine," October) thinks that whenever a substance passes from the liquid to the gaseous state, no matter whether above or below the critical point, the cause is a change of the molecule from a more complex to a less complex form. So long as the molecule is unchanged, the isometrics (lines of equal volume) are all straight lines, but as soon as the change begins they curve. He remarks, however, that pressures that seem very large to us may be infinitesimal compared with the molecular pressures in liquids and solids.

Energy of a Gas.—G. Staub compares this quantity with the light the gas is capable of emitting, by placing a Geissler's tube in an ice calorimeter. The ice transmits the luminous rays, so that only the energy of the dark ones is measured. The measurement is then repeated with the surface of the tube blackened so as to absorb all rays. The maximum of light was found to be 10 per cent. of the total energy, which rose to 32.8 per cent. when condensers were used. In hydrogen the optical effect was less than in air.

Kinetic Theory.—E. P. Culverwell ("Philosophical Magazine," July) grants Sir William Thomson's objection to the kinetic theory. That objection is that mutual action of molecules, mathematically considered, does not tend to establish temperature equilibrium. Culverwell says, however, that owing to the impossibility of excluding the action of the ether, it can never be proved that the unaided gas molecules do tend practically to this result. He regards the actual tendency to uniform heat as an action of the ether analogous to conduction. This assumption reduces the number of facts explicable by the pure kinetic theory, by shifting the trouble to the ether. Ladislaus Natanson ("Philosophical Magazine," January) remarks that in the kinetic theory we are far from possessing a general definition of temperature, the usual one being applicable only to perfect gases. In cases where atoms and molecules both exist in a gas the mean values of the kinetic energies of the two classes may be different, and not even in constant ratio. Which should measure the temperature? It seems necessary to suppose that iodine atoms, NO_2 groups, etc., combine into molecules only during collision, and this is probably true of all gaseous molecules.

Light. Velocity.—Prof. E. W. Morley finds that the velocity of light increases in a magnetic field by 7 parts in 1,000,000,000.

Measurement by Light Waves.—Prof. A. A. Michelson ("American Journal of Science," February) concludes from experiments with the refractometer that with a few pieces of plane glass it is possible to construct an instrument that combines the functions of a microscope, telescope, and spectroscope, and that, for purposes of measurement, it may be made far to

surpass them all in accuracy. The utmost limit of accuracy in the setting of a cross-hair on a fine ruled line is .000002 inch, but direct measurement of the length of a wave of green light in the spectrum of mercury vapor showed an error of only .0000001.

Spectroscopy.—Dr. E. Pringsheim (Berlin Physical Society, Feb. 21) remarks, that by experiments on the spectrum of burning sodium vapor it is impossible to answer the question, "Does a gas acquire the power of emitting light rays when its temperature is raised?" since chemical action may alter the conditions. He heated metallic sodium in a closed tube, and obtained the usual bright line, but does not consider Kirchhoff's law proved absolutely for gaseous radiation, since the nitrogen in his tubes contained minute traces of oxygen. Prof. S. P. Langley and F. W. Very ("American Journal of Science," August) report careful experiments with the spectroscopic and bolometer for the light emitted by the Cuban fire-fly *Pyrophorus noctiluca*. The insect produces no heat rays, except those identical with its luminous radiation, while in ordinary industrial methods of lighting by candle, lamp, or gas, 99 per cent. of the energy produced is wasted in heat. Even in the electric light such waste is enormous. The fire-fly light, therefore, is far more economical than any yet discovered, and Prof. Langley sees no reason why we should not one day produce it in our laboratories. J. R. Rydberg, of the University of Lund, Sweden ("Philosophical Magazine," April) has found that the "long" lines of the spectra of the elements form doublets or triplets, in which the difference of the wave numbers of their corresponding components is constant for each element. This rule had already been announced by Hanly for magnesium, zinc, and chlorine. Rydberg finds, also, that the components of the doublets form series, of which the terms are functions of the consecutive integers. These series are of three kinds or groups, which he names respectively "diffuse," "sharp," and "principal," and the first two kinds are divided each into three orders. Series of the same group and those of the same order are related mathematically to one another in a way that shows that they all belong to one system. The wave lengths and wave numbers of corresponding lines, as well as the values of certain constants in the mathematical formula giving the relation of corresponding series, are periodic functions of the atomic weight. Joseph S. Ames, of Johns Hopkins University (*ibid.*, July), has deduced similar relations between cadmium and zinc. C. Runge, of Hanover, discussing the method of E. J. F. Love (see "Annual Cyclopædia," 1889, page 695) for discriminating between real and accidental coincidence of lines in spectra, agrees with Love that if the curve representing errors of coincidence diverges from the theoretical error curve the supposed coincidences are disproved, but asserts that even if the curves agree there is no proof. He shows that for a certain distance of lines in one spectrum the plotted curve must always resemble the error curve for any lines that one pleases to take as lines of the other spectrum. This conclusion invalidates many of the supposed proofs of Grünwald's theory ("Annual Cyclopædia," 1889, page 695).

Interference.—P. Garbe ("Journal de Physique," IX, 47), has found that two kinds of bands are produced when light is passed through two similar gratings. The first are bands of which the central one is colored like the others, and the color changes periodically if the gratings be shifted or rotated. If the slit be small the second kind of bands—true interference bands—are produced.

O. Wiener (Wiedemann's "Annalen," XL, 203) has photographed stationary light waves in a sensitive transparent collodion lamina, whose thickness was only about $\frac{1}{50}$ the length of a wave of the light used. This lamina was placed between two glass plates at a small angle with a metal mirror. After exposure, layers were discovered in the lamina, which were due to action at the ventral segments of the stationary waves produced by reflection. The experiment seems to prove conclusively that the chemically active vibrations of polarized light are at right angles to the plane of polarization. Probably the vibrations of the luminiferous medium produce vibrations of the solid particles in the same direction which causes the photochemical change.

Absorption.—Herzberg Schulze, in experiments on the absorptive power for light of different kinds of glass, finds that thick, heavy glass absorbs 27 per cent.; less heavy, 12.6 per cent.; white Rhinish glass, 10 per cent.; and ordinary mirror glass, 10 per cent.

Refraction.—E. Donner (Carl's "Repertorium," 110, 40-42) finds that all salts of the same acid that contain equal amounts of metal have equal molecular refractive power. For instance, the refractive power of MCl is 21.5; that of MCl_2 is 42.8; that of SO_4M_2 is 42.5, etc. Prof. S. P. Thompson described Bertrand's refractometer before the London Physical Society on March 7. The instrument depends on the total reflection of a hemisphere of glass, 8 millimetres in diameter, at the end of a tube, plane face outward, inclined at an angle of 30° with the axis of the tube. One side of the convex surface is illuminated through a piece of ground glass perpendicular to the plane face. The eye-piece is focused on a scale of $\frac{1}{10}$ millimetre in the tube. A film of the liquid to be measured is spread over the plane face of the hemisphere, and the position of the line separating the light part of the field from the dark part is read on the scale. This differs with the liquid that is used, and by calibrating the instrument, the refractive index can be read off at once. This refractometer is remarkable for handiness and accuracy. Hurion and Mermeret (Carl's "Repertorium," page 110, 1187) have measured the refractive index of gold leaf by observing the alteration of phase of transmitted light with Jamin's interference apparatus. They found the index equal to .19 for the spectral line C, to .41 for D, to .72 for b , and for .93 for F. Kundt ("Annual Cyclopædia," 1889, page 697) found .38 for red light and .1 for blue. H. Rubens (Berlin Academy of Sciences, July 24) has measured the refractive index of metals by Kundt's prism method. He finds that light, in passing from iron, cobalt, or nickel, to air, begins by following the sine law for small angles, but for larger ones deviates from it; so that the refractive index should be calculated

only from approximately normal incidence. His results differed somewhat from those of Kundt.

A. Gleichen ("Zeitschrift für Physik") finds that when a pencil of rays falls on a prism whose refracting edge is perpendicular to the axis of the pencil, the astigmatic difference is independent of the distance of objects only in the case of minimum deviation.

Dispersion.—A. Winkelman (Wiedemann's "Annalen," July) has investigated the anomalous dispersion of colored glass. Didymium glass shows two regions of such dispersion—one in the red and one in the green. Uranium glass has three—in the red, between the yellow and green, and in the edge of the blue. Cobalt glass has two—in the edge of the red toward the blue, and in the green. Ph. Barbier and L. Roux (Paris Academy of Sciences, May 27) find that the dispersive power of the alcohols of the fatty series is a continued function of their molecular weight; and, contrary to what is true of the aromatic series, the dispersive power increases with increase of the molecular weight. The absence of hydrogen also increases the dispersion.

Photometry.—A. Cerova (Carl's "Repertorium," page 109) by means of a spectrophotometer, has compared the intensity of sky light at five different wave lengths with that of a carcel lamp. He shows that sky light has an excess of blue. If the intensity for wave length 0.565 be called 100, then the results are as follows:

LOCALITY, ETC.	Intensity for $\lambda_{0.500}$.	Intensity for $\lambda_{0.550}$.
Mont Ventoux.....	57	200
Montpellier.....	65	167
Direct sunlight.....	74	147

The excess of blue diminished from morning till noon and then increased. It differed from day to day. Edmund J. Spitta (London Royal Society, Dec. 5, 1889) has devised an improved wedge photometer. When a point of light is compared with a disk by the ordinary wedge photometer, a cause of uncertainty arises, owing to the fact that the light from different parts of the disk passes through different thicknesses of glass. Spitta uses two glass wedges, which slide past each other, and thus give a field of uniform intensity where the points overlap. Lion ("La Nature," Sept. 6) has devised a nitrogen-iodide photometer. He finds that equal surfaces of the iodide, preserved under its mother liquor and exposed for equal times to lights of equal intensity, evolve equal volumes of nitrogen. In the instrument the iodide is contained in two vessels connected by a differential manometer. Segny and Verschaffel (Paris Academy of Sciences, Sept. 1) have devised a photometer on the principle of a Crookes radiometer, but the disks, instead of being allowed to revolve, are suspended to form a torsion balance, and are provided with a needle, which, by its deflection, measured in a divided arc, shows the intensity of the light.

Standard of Light.—Dr. Brodhun and Dr. Lummer (Berlin Physical Society, March 21) have experimented on electric glow lamps fed by accumulators, with a view to using them as standards, and find that they vary by only 1 per cent. in two hundred hours.

Optical Instruments.—The "periscope," used on submarine war vessels, is a simple application of the principles of reflection. As used on the French torpedo boat "Gymnote," it is a vertical telescopic arrangement with a lenticular total-reflection prism at top. After reflection in this, the rays converge to a point and are received by a lens whose principal focus coincides with this point; the vertical cylindrical beam thus formed meets a mirror inclined at an angle of 45° , and is directed horizontally to an eye-piece. Thus, when the total reflection prism is above water and can be turned toward any part of the horizon, any object on the water may be seen at the eye-piece in the boat below.

Electricity. *Electric Waves.*—The discovery of electric radiation by Hertz ("Annuaire Cyclopaedia," 1889, page 604) has given a great impulse to the study of electro-magnetic induction. Many new ways of producing or investigating this radiation have been devised. G. Bartanek (*Beiblätter* to Wiedemann's "Annalen" XIV, 654) uses an incandescent lamp whose carbon filament has been broken, for showing the spark in the "resonator." Dr. Ignatius Klemencic has investigated the vibrations by means of a thermo-element soldered between the ends of the secondary inductor. H. Classen, by blowing a stream of air between the terminals of a Ruhmkorff coil, produces a sharp crackling spark which can be used instead of that of the "vibrator." Ernest Lechner (Vienna "Berichte," May 8) investigates electric resonance by leading wires from insulated plates opposite the terminal plates of a Hertz's arrangement. Over the ends of these wires, when they are placed parallel, he holds a tube filled with rarefied air, which becomes luminous. If the parallel wires be connected by a wire link, the luminosity, in general, ceases, but it reappears periodically as the link is slipped along the wires. The places where the link causes it to reappear are evidently the "loops" of stationary vibrations in the wires. His experiments confirm those of Hertz, except that he finds for the velocity of the radiation a quantity within 2 per cent. of that determined by Maxwell, with whom Hertz did not agree on this point. Dr. Rubens and Dr. Ritter (Berlin Physical Society, March 7) have investigated electric radiation by means of the bolometer. They constructed a Wheatstone's bridge, two of whose arms were secondary bridges. If a current passes through one, the resistance is altered by rise of temperature, and the galvanometer gives a throw. The same effect is produced by a wave of electric radiation; hence, the amplitude of such a wave can be measured. Their experiments with a polarizing wire grating show that there is a constant relation between the intensity of the rays that pass it and the angle of inclination of the wires. When the wires are at right angles to the vibrator, 98 per cent. of the energy is reflected. Edouard Sarasin and Lucien de la Rive (Paris Academy of Sciences, Jan. 13), in discovering what they term "multiple resonance," throw doubt on Hertz's hypothesis; and Cornu asserts that we must receive all of the German physicist's theoretical inferences with caution. F. T. Trouton, however, has observed the same thing, and explains it conformably with the received theory. He found that resonators of different

size gave the node at different distances from a reflecting sheet. The intensity of the spark increased with the size of the resonator up to a certain point, and then diminished. A vibrator, therefore, sends out not a line spectrum but a band spectrum, whose center is brightest, and the period is that belonging to the middle of the band. In like manner the same resonator indicated the node at different places according to the size of the vibrator—that is, it responded to the edge of one band for instance, and to the middle of another. In the course of his experiments on secondary waves, Trouton ("Philosophical Magazine," March) found that glass absorbs Hertzian vibrations with comparative rapidity, and that their velocity can be measured by placing a sheet of glass in front of a reflector. The stationary waves obtained from a non-conductor differ from those obtained by reflection from a metal. Trowbridge and Sabine, at Harvard College, by experiments on electric oscillations in air, show that in quick oscillations there is a marked periodicity in the vibrations. It is not so marked in slower oscillations, and in glass it is not noticed. They believe the cause of this periodicity to be analogous to the magnetic phenomenon of hysteresis ("Annual Cyclopædia," 1889, page 702). A certain amount of energy is spent in overcoming the dielectric viscosity of air and in straining it, which strain is not immediately released. The periodicity is most marked when the capacity of the condenser bears a certain relation to the time of oscillation—that is, when they are "in tune," as it were. The actual transference of electric waves in air does not agree with Hertz's theory, and this is probably the cause. James Moser (Vienna "Berichte," Jan. 9) surrounded the conductors in which the vibrations occur with rarefied spaces, and found that the more nearly perfect *vacua* exerted no screening action—that is, they had become non-conducting. J. Stefan (Vienna "Berichte," Jan. 9) has investigated vibrations in a straight conductor. He says that in solving questions of vibration we may neglect the resistance, and deduces mathematically the principle that the distribution of variable current takes place in such a manner that for any time its electro-dynamic or magnetic energy is a minimum. In a straight current of circular section, the current can be arranged only symmetrically about the axis. In whatever manner the electric density may vary from the axis toward the surface, the exterior magnetic action is as if the entire current were concentrated at the axis. As the energy must have the smallest possible value the actual distribution of the current in the wire is on an infinitely thin surface layer. In the same way it is proved that in a conductor of elliptical section the density of the electric current of any shot is proportional to the perpendicular dropped from the center to the tangent at that spot. The velocity of electric waves in a conductor depends on the product of the coefficient of self-induction and the capacity. Self-induction is independent of magnetism when the current is thus distributed on the surface: so electric waves of high periods travel in iron wire just as fast as in copper. Hertz explained this by assuming that the magnetism of iron could not follow such rapid vibrations. Stefan's explanation is simpler, be-

ing that the iron is free from any magnetic action. Hertz had already shown that electric vibrations of high frequency move only on the surface of conductors, and that electric waves are propagated in thin and thick wires with the same velocity. This in a straight conductor is independent not only of magnitude, but also of the form of the section. The same author (Jan. 16) says that induced currents form an essential condition of the reflection of inducing actions, "reflection" from a metal sheet being only the action of currents induced in such sheet. Several attempts have been made to construct electro-radiation meters. W. G. Gregory (London Physical Society, Nov. 1, 1889) employs a long fine platinum wire fastened to a delicate magnetic spring in a tube of glass and brass. Between wire and spring is a small mirror. When the tube is placed parallel to a Hertz oscillator, the mirror indicates an extension of the wire. An elongation of $\frac{1}{100000}$ millimetre has been detected, and when the tube is placed four metres from the oscillator the observed extension corresponds to a change of temperature of 0.003° C. C. V. Boys endeavored to construct a meter of two wires, one straight and one shaped like the full line in the figure, which was free to turn on the dotted line as an axis. The electro-dynamic attraction being greater at the middle of the wires and the electrostatic repulsion greater at the ends, he thought that the bent wire would be rotated, but he found no result, which shows that the current in each wire must have been less than $\frac{1}{10}$ ampère. He then tried a Joule dynamic air thermometer, which is a glass tube with a partition so arranged that convection currents due to unequal heating deflect an index. The tube was enclosed in a larger tube that was rotated by clock-work to equalize the temperature. A Hertz resonator being placed in one compartment of the thermometer, a large deflection was observed when electro-radiation was directed toward it. The theory of Boys's unsuccessful meter has been worked out mathematically by Prof. O. J. Lodge, who finds that there is a minute force between the wires, and who also deduces other relations between currents and magnets, which require experimental verification. Among these are the following: The action of two given magnets varies inversely as the permeability of the medium. That of two currents varies directly as the permeability, and that of a current and a magnet is independent of it. The statical action of two charges varies inversely as the dielectric constant of the medium. That of a charge that is moving at the speed of light and a magnet is independent of the medium. The dynamic action between two charges at light speed is proportional to the permeability of the medium.

Photo-electricity.—A. Stoletow ("Journal of the Russian Physico-Chemical Society") thus sums up his researches in this direction: 1. When the rays of a voltaic arc fall on a plate charged with negative electricity it is discharged. 2. The action is strictly unipolar, positive electricity not being carried away. 3. The apparent charging of a neutral body by light rays is probably due to this cause. 4. The strongest action is due to rays of the highest refrangibility—those wanting



in the solar spectrum. 5. The rays must be absorbed in order to act. 6. All metals and some aniline dyes are thus affected; water is not. 7. The effect requires no appreciable time. 8. The discharge is proportional to the energy of the rays and to the surface illuminated. 9. Its magnitude depends on the density, at first increasing more rapidly than the density, but afterward more slowly. 10. Two plates between which there exists a contact difference of potential act as a voltaic element when the negative one is illuminated. 11. We can consider this discharge as an electric current. The air plays the part of a bad conductor and Ohm's law is not followed. 12. The actino-electric action increases with the temperature.

The phenomena are seen only in gases, and are due to a kind of convection current, but the first step of excitation remains an enigma, though the analogy with Geissler and Crookes tubes is striking. The ultra-violet radiations reduce to the same potential a plate and netting (see "Annual Cyclopaedia," 1889, page 695), and Righi utilizes this fact in measuring the potential difference of contact of metals. He connects the netting permanently to earth, notes the deflection of an electrometer connected with the plate, then connects the electrometer to earth and turns on the light; the difference of the two electrometer readings gives the quantity sought. Prof. G. M. Minchin has constructed what he calls "photo-electric impulse cells." ("Nature," May 22). Two metal plates are immersed in alcohol in a glass tube. One of the plates has previously been prepared in a way which has not yet been described by the inventor. Light causes a deflection of a galvanometer that is joined to the plates; but tapping on the base of the cell renders it insensitive. A second tap restores the sensitiveness, and so on. A spark from a Voss machine that is not connected with the cell has the same result. Prof. Minchin regards the phenomena as due to the formation of an "oscillating layer" at the surface of the plate. Details and full conclusions are yet to appear.

Thermo-electricity.—Chassagny and Abraham (Paris Academy of Sciences, Sept. 29) find that the variation in the electromotive force produced by heating the poles of a copper-iron couple is practically constant between 0° and 100 C. They suggest that some such arrangement be used as a standard of electromotive force. The same experimenters (Oct. 27), in verifying the law $E(AC) = E(AB) + E(BC)$, where $E(AC)$ means the contact electromotive force between the metals A and C find the following:

SUBSTANCES.	Calculated.	Observed.
Iron-copper	0.0010925	0.0010926
Iron-platinum	0.016542	0.016542
Copper-platinum	0.005917	0.005917

Lielsch, of Göttingen, has investigated thermo-electric currents in crystals. He finds that in a rectangular parallelepiped of homogeneous conductivity cut from a triclinic crystal, and imbedded in homogeneous normal metal, the thermo-electric force in the direction of the steepest temperature gradient is always represented by the squared reciprocal of the parallel radius vector of a certain ellipsoid. Dr. de

Coudres has detected a thermo-electric tension between compressed and uncompressed mercury. The compression was effected both hydraulically and by the weight of the liquid itself.

Disruptive Discharge.—A. Schneider has investigated the disruptive discharge through gases, and finds: 1, that the explosive distance is a function of the curvature; 2, that the breaking stress diminishes for increasing distances between two planes; and 3, that the explosive stress reaches a minimum with increasing distance, and then increases again. The increase of stress at small distances is due to the inequality of the field along the surface of the conductor. In the case of planes the inequality lies between the back and front of the surface. Possibly the density of a curved layer may depend also on an inequality of the field along the normal to the surface. Dr. S. P. Thompson (London Physical Society, Jan. 17) has experimented on electric "splashes"—a modification of the well-known Lichtenberg figures. The nature of the dielectric plate does not affect the figures, nor does the nature of the powder, but a mixture of sublimed sulphur and lycopodium shows them best. He used a large and highly polished knob. In the negative figures nebulous patches occur, which he attributes to electric winds. If the knob be brought near the plate without touching it, a peculiar figure like a splash results. A positive splash consists of short radiating lines, and a negative one of more or less rounded spots. In the dark, a splash is a bundle of small sparks branching outward. Similar results have been obtained by others by discharges on photographic plates. J. Stefan (Vienna, "Berichte," June 7) says that an oscillatory discharge shows more markedly than any other the properties of electric inertia. The phenomena resemble those of a liquid oscillating in connecting tubes. The energy that corresponds to difference in height is changed to *vis viva* and back again. The question is, What is this *vis viva* in electricity which is capable of being changed back into difference of potential? In the special case in which a wire passes around an iron core the nature of the greatest part is known. It is the magnetic energy which has accumulated in the iron. Even when there is no iron, then, the energy may be conceived of as magnetic.

Electric Convection.—Prof. H. A. Rowland and C. T. Hutchinson have repeated the former's Berlin experiment on the magnetic effect of a static charge in motion, and find the deviation of the needle proportional to the amount of electricity passing per second, as with voltaic currents. F. Himstedt has repeated the same experiment, and confirms its results, except that he finds no difference in changing the direction of rotation.

The Electric Arc.—E. Villari ("Accademia dei Lincei," v. 730) finds that the arc is far shorter in hydrogen than in carbon dioxide, and in the latter than in air. The ratio is 3.9:7.4:8.5. In nitrogen, with an ascending current, the arc was 7 times as long as in hydrogen, and with a descending current it was 25.7 times as long.

Resistance.—M. Curie ("Annales de chimie et de physique") has investigated the inductive

power and conduction in various dielectrics, especially in piezo-electric quartz. The conductivity of such quartz is strong in the direction of the optic axis, and falls to zero at right angles to it. Plates parallel to the axis, with the extremity of the axis connected to earth, behave, at higher temperatures than 120° C. as dielectrics of zero-inductive power. With long heating the conductivity along the axis disappears. He finds that water plays a capital rôle in the conductivity of many dielectrics—perhaps in that of all. With plates of baked porcelain kept moist, various types of conductivity can be imitated. Herbert Tomlinson (London Physical Society, Nov. 15) finds that repeated heating and cooling affects the electric resistance of iron, the specific resistance being reduced, by heating to 100° and cooling to 17° C., from 11.162 to 10.688 C. G. S. units. Afterward no further change could be produced. B. O. Peirce and R. W. Willson ("American Journal of Science," December, 1889) find that the resistance of a cell when measured by alternating currents is always smaller than that obtained by any other method. This method "fatigues" all but the so-called constant cells. In most cases the internal resistance decreases as the current delivered by the cell increases. Dr. Bndde (Berlin Physical Society, Feb. 7) finds that German-silver wires are unsuited for standard resistance coils, for their resistance increases with time, as they gradually become crystallized. An alloy of copper and nickel gives the best results, becoming absolutely constant after being heated to 100° C.

H. le Chatelier (Paris Academy of Sciences, Feb. 10) describes the resistance curves of several alloys. Those of ferro-manganese (13 per cent. manganese) and platino-rhodium are regular, but both mild and hard steel have singular points at 820° and 710° . Silicon steel (3 per cent. silicon) has only the point at 820° . Ferro-nickel (25 per cent. nickel) behaves very peculiarly, and below 550° seems to exist in two modifications. G. Vicentini and D. Omolei (Turin Royal Academy, September, 1889) find that the specific resistance of mercury between 0° and 350° C. can be represented by the formula $1 + 898.9 \times 10^{-6}t + 669.5 \times 10^{-9}t^2 + 101.8 \times 10^{-11}t^3$. The specific resistance of the other metals at their melting points is about proportional to their atomic weights, bismuth and antimony excepted. Hugo Koller (Vienna "Berichte," ii, 98) has measured the resistances of various dielectrics in mercury units with the following results:

Petroleum ether...	2000×10^{13}	Water	10×10^7
Oil of turpentine...	53 "	Alcohol	200 "
Olive oil	100 "	Ether	200 "
Bisulphide of car-		Gutta-percha	100 "
bon	8 "	Paraffin	100 "
Yaseline	2000×10^{13}	Hard glass	100×10^{13}
Benzol	2.11 "	Soft glass	10 "
Toluol	2 "		
Xylol	10 "		

Pure water is probably non-conductive, but if it stands in glass it rises in conductivity from day to day by dissolving the glass. (See also *Solution*.) Herr Pfeiffer (Wiedemann's "Annalen") finds that water, if purified as thoroughly as possible, when standing in air shows at first a decrease in conductivity, which gradually gives place to the normal decrease, and that this

abnormal behavior is due to micro-organisms which absorb the conducting substances in the water. Carl Barus ("American Journal of Science," September) shows that, in mercury, and in concentrated solution of zinc sulphate, isothermal compression decreases the resistance nearly in proportion to the pressure; and he deduces from this the law that rise of temperature causes decrease of specific resistance.

Contact Electricity.—J. Enright ("Philosophical Magazine," January), in investigating the contact electricity of gases and liquids, concludes that hydrogen holds its charge with amazing tenacity and gives it up only when each molecule individually comes into contact with a conducting body. Such contacts are difficult to effect, there being no real contact even between a stream of the gas and the liquid through which it bubbles. But when acid acts on zinc the nascent gas comes into real contact with the liquid. By connecting with an electrometer an insulated vessel in which a chemical action is taking place he says that he finds that such action produces electrification. But Prof. O. J. Lodge thinks all Enright's results may be, and probably are, due to the frictional electrification of spray. Enright had previously investigated the electric phenomena of solution (London Physical Society, Nov. 1, 1889). No electricity is produced if nothing leaves the vessel, but when gases escape the vessel is charged positively or negatively, according to the nature of the liquid. Zinc in hydrochloric acid produces a deflection of the electrometer in one direction while the liquid is acid, but this decreases, and finally reverses when zinc chloride is produced. The electrification appears always to be positive when the gas leaves an acid, and negative when it leaves a salt solution.

Electrolysis.—Prof. Planck (Berlin Physical Society, Dec. 6, 1889) finds by mathematical analysis that heat is the most important form of energy in a dilute electrolytic solution. We may assume that as a gas becomes warmer by compression and colder by fall of pressure, so also heat is developed in such a solution when the ions increase in number, and disappears when they are diminished per unit volume. Hence the more diffusive processes in an electrolytic solution whose composition is not uniform must develop an "osmotic heat."

Electrification of Steam.—Shelford Bidwell (London Physical Society, Dec. 6, 1889) finds that the opacity of a jet of steam is increased by bringing electrified points near it, and that its color changes to orange-brown. There is little or no absorption in the spectrum of a non-electrified jet, but on electrification the violet disappears and the blue and green diminish. Bidwell concludes that electrification increases the size of the water particles from something small compared to the wave length of light, to about $\frac{1}{300000}$ inch. Allied phenomena with a water jet were observed by Lord Rayleigh, who found that electrification made a straggling jet more coherent. This may explain the darkness of a thunder cloud and the lurid light that accompanies it. Similar observations were made by the late Robert Helmholtz. The sudden condensation is due perhaps to molecular tremors or shocks, as when a supersaturated solution is crystallized.

Lightning.—Von Lepel has succeeded in imitating globular lightning with an influence machine by holding two thin brass points that are connected with the poles at the proper distances from opposite sides of an insulated plate of mica, ebonite, or glass. Small red, luminous balls appear, sometimes moving about—now quickly, now slowly—sometimes standing still. A slight air current causes the spherules to disappear with a hiss. Small particles of liquid or dust appear to carry the light. The phenomena are due to weak tension: higher potential gives rise to a spark discharge.

Action of Flames.—The British Association committee that was appointed to investigate the subject of the discharge of electrified bodies by flames finds (Newcastle, 1889) that contact is not necessary, and that the discharge is due to a molecular action that moves faster than light.

Nerve Electricity.—Herr Taschenoff (Pflüger's "Archiv.") finds that an electric current is produced in the skin by mental excitation. He applied clay electrodes to various parts of the body, and after compensating the normal current noted the effect of mental stimulus. Tickling caused a deflection, and so did hot water, cold, a prick, sound, light, taste, and odors. Imagination also produced an effect, and an expectant state of mind was accompanied by irregular oscillation of the galvanometer.

Magnetism. Its Nature.—Prof. J. A. Ewing (London Royal Society, June 19) grouped near one another a large number of small pivoted magnets, and studied their configuration and the manner in which it yields to external magnetic force. The results do not support the theory that the molecules in an unmagnetized substance form closed chains, but lead to the conclusion that it is not necessary to assume any arbitrary restraint. J. Hopkinson, in an address before the Institute of Electrical Engineers (Jan. 9), sums up recent discoveries in magnetism. He remarks that all magnetic substance, are, comparatively speaking, enormously magnetic, and that there is no gradation in properties from the magnetic to the non-magnetic. He states that the energy lost in a complete cycle of reversals of magnetism in Whitworth mild steel is 10,000 ergs per cubic centimetre; in oil-hardened steel, 100,000; and in tungsten steel, 200,000. The importance of such measurements is seen in the fact that this quantity should be low in dynamo armatures. He says that the magnetic properties of iron are easily destroyed by alloying with a small quantity of manganese and that such an alloy shows no sign of hysteresis ("Annual Cyclopædia," 1889, page 702). So far as known, no one has proposed to explain the fundamental anomaly, Why do iron, nickel, and cobalt possess a property not shared by other metals? The rest may be magnetic at very low temperatures, but we have no experimental indication of it.

The Earth's Magnetism.—The results of the "Challenger" expedition of 1882, as regards magnetic observations, have just been discussed. In general, the earth's magnetic areas, or "poles," seem fixed in position. Near a line from North Cape to Cape Horn are some of the foci of greatest secular change. If the word "red" be used to indicate the north-seeking end of the magnetic needle and "blue" to signify the opposite,

there is a blue pole of increasing power in China, a probable decrease of vertical force in the high latitudes of North America, and general change in the relative power of the various poles. There are local magnetic disturbances even in solitary islands. No satisfactory explanation of the phenomena has yet been found.

Magnetism of a Laboratory.—The Jefferson Laboratory at Harvard was purposely built with little or no iron, that the magnetic field might be regular. R. W. Willson, who has tested the field, however, finds it extremely irregular, steam pipes, a stove, and even the brick instrument piers, containing enough free magnetism to produce an effect.

Magnetism of a Railway.—Trains on the Ceinture railway at Paris disturb the bifilar magnetometer at Montsouris Observatory, sixty metres distant. The line crosses the magnetic meridian, and the wheel tires thus become magnetized by induction.

Optical Effects.—H. E. J. G. du Bois, of Strasbourg University ("Philosophical Magazine," March), from experiments on Kerr's phenomenon (the rotation of the plane of polarization of a beam reflected from a magnet), concludes that it depends solely on the magnetization that exists immediately behind the mirror surface. At least part of the radiation penetrates below the surface and is there acted on.

Effect of an Electric Current.—C. G. Kente ("Philosophical Magazine," September) finds that a linear current modifies the properties of iron in relation to magnetic after-effect in three ways: 1. The total range of magnetic intensity that is produced by a given cyclic variation of magnetic force is less when the current flows; 2. When a linear current flows, the average intensity of a cycle no longer corresponds to zero polarity, but for a current in one direction it oscillates about a positive, and for one in the other, about a negative value; 3. A current passing along a wire that is being magnetized, diminishes its susceptibility, but the effect is more pronounced when the wire is acquiring longitudinal polarity in an opposite direction to that in which the current flows. Hence, during any cyclic operation the wire tends to acquire a polarity in the direction of the current.

Villari Points.—These are the values of magnetic force for which traction produces no change in permeability. H. Tomlinson (London Physical Society, March 21) finds that for annealed unstrained iron this critical value of the force decreases as the load increases, and that the Villari point is lower for temporary than for total magnetization. In unstrained nickel the critical value is greater than in iron. In permanently strained iron, for forces from 0.03 to 0.3, there is no Villari point; and the same is true of nickel for minute forces. Iron has two Villari points for higher forces, but with very high ones the wire breaks before the second is reached.

Diamagnetism.—Lodge, commenting on Duhem's experiments ("Annual Cyclopædia," 1889, page 703), says that a perpetual-motion machine could be constructed if they were true. A wheel with a diamagnetic rim might spin near a permanent magnet so that one side should approach and the other recede from a strong field. For a fast spin the diamagnetism would lag behind the

magnetizing force. The receding side would be repelled more powerfully than the other, and so the motion would be kept up. There are several ways of reconciling this conclusion with received ideas. Perhaps the action may be instantaneous. Perhaps, according to Parker, actual diamagnetism has no real existence. Lodge suggests that the energy of the supposed perpetual motion might be obtained at the expense of the magnetic field—because the spinning of the wheel may demagnetize the permanent magnet. The forces concerned are so small that actual experiment can hardly decide the matter.

PHYSIOLOGY. In his presidential address before the biological section of the British Association, Prof. J. S. Burdon Sanderson pointed out that physiology had suffered in interest from the separation which had been made of it, in the splitting up of the sciences, from morphology. While morphology, studying the order of the plant and animal world, was attractive to the beginner and satisfactory to the mature student, physiology presented difficulties which are apt to be discouraging to the beginner; while to the mature student it fails to present a system of knowledge of which all the parts are interdependent and can be referred to one fundamental principle comparable to that of development or evolution. Now that the best minds are directed with more concentration than ever before to those questions which relate to the elementary endowments of living matter, the author could predict that it was in that direction of elementary physiology that the advance of the next twenty years would be made. The work of investigating the special functions of organs, which during the last two decades has yielded such splendid results, is still proceeding, and every year new ground is being broken and new and fruitful lines of experimental inquiry are being opened up; but the further the physiologist advances in this work of analysis and differentiation the more frequently does he find his attention arrested by deeper questions relating to the essential endowments of living matter, of which even the most highly differentiated functions of the animal or plant organism are the outcome. In our science the order of progress has hitherto been and will continue to be the reverse of the order of Nature. Nature begins with the elementary and ends with the complex (first the amoeba, then the man). Our mode of investigation has to begin at the end. And this not merely for the historical reason that the first stimulus to physiological inquiry was man's reasonable desire to know himself, but because differentiation actually involves simplification. Physiology, therefore, first studies man and the higher animals, and proceeds to the higher plants, then to invertebrates and cryptogams, ending where development begins. From the beginning her aim has been to correlate function with structure—at first roughly, afterward, when her methods of observation became scientific, more and more accurately—the principle being that every appreciable difference of structure corresponds to a difference of function; and conversely that each endowment of a living organ must be explained, if explained at all, as springing from its structure. It is not difficult to see where this method must ultimately lead us. For inasmuch as

function is more complicated than structure, the result of proceeding, as physiology normally does, from structure to function, must inevitably be to bring us face to face with the functional differences which have no structural difference to explain them. Thus the investigation of special organs, such as the eye, or a gland, like the liver, leads up to plurality of function with unity of structure, the unity being represented by a simple structural element—be it retinal cone or cell—possessed of numerous endowments. Whenever this point is reached, we take the problem in reverse—that is, use analysis of function as a guide to the ultra-microscopical analysis of structure. Some of the greatest advances in physiological science have been made in this direction, in which the recognition of function has preceded the knowledge of structure. During the last ten or fifteen years histology has carried its methods of research to such a degree of perfection that further improvement seems hardly possible. As compared with these subtle refinements, the "minute anatomy" of thirty years ago appears coarse, the skill for which we once took credit but clumsiness. It is by different methods of investigation that our better equipped successors must gain insight of those vital processes of which even the ultimate results of microscopical analysis will ever be, as they are now, only the outward and visible sign.

Nervous System.—The influence which leads to the production of the convolutions on the surface of the cerebrum and cerebellum is thus explained by Dr. G. Jelgersma, of Meerenberg: The gray cortex of the cerebrum, which in different forms of the same animal group preserves a tolerably constant thickness, increases by surface extension. Now, if we extend the surface of a smooth-brained animal, say four times, we must provide eight times as much white matter to fill the interior of the gray capsule, if we desire to keep the surface even; or, to put it in different terms, if we lengthen out the radius of the brain ten times, we acquire a surface extension one hundred times greater, and an internal capacity one thousand times greater. The geometrical law involved is that in the growth of a body the surface increases with the second, but the interior with the third power of the radius. Such being the case, it is evident, seeing that the proportion of internal white matter and external gray matter is in all cases uniform, that in the evolution of a large animal from a small one a disproportion between the gray capsule and the white core of the cerebrum must result. This is compensated for by the extended cortex placing itself in folds or puckers, and thereby reducing the capacity of the capsule to a degree which brings it into correspondence with the white contents. Consequently, "the formation of the convolutions and furrows is simply the result of the tendency on the part of the superficial layer to increase by surface extension and of a mutual space accommodation of the gray substance and of the white conducting paths." The same theory has been independently advanced by Prof. George F. Fitzgerald, of Trinity College, Dublin.

The effect upon the bodily temperature of lesions of the corpus striatum and optic thalamus has been studied by W. Hale White, M. D.,

with careful attention to avoiding the sources of error to which previous experiments were liable. The conclusions are adduced that lesions of the white substance are incompetent to produce a rise of temperature unless they touch the gray matter of the central ganglia; that lesions of the corpus striatum produce usually a considerable rise; that when the optic thalamus is injured, the rise attains its highest point in six or seven hours and has an average duration of forty hours; and, on the whole, that the corpus striatum and the optic thalamus have, in rabbits at least, the power of modifying the temperature of the body, and that the surrounding white matter has no such function. A similar result has been observed in man in cases of patients who were under the author's care.

The questions have been investigated by Humphry D. Rolleston whether there is any evolution of heat during the passage of a nervous impulse, and as to the production of heat in a nerve during the process of dying. The first question is answered in the negative, no evidence having been produced in the experiments of any heat being evolved from the nerve trunk; and the second question affirmatively, the dying nerve having evolved enough heat to raise the temperature of the thermometer in contact with it $\frac{1}{2}^{\circ}$ C. The evolution of heat roughly corresponds with the intensity of the natural nerve current, but this is not constant absolutely. There is some evidence to show that nerves die at different rates.

In the experiments of Dr. Joseph on the influence of the nerves on the skin, a piece of the second cervical nerve was excised from the ganglion. A few days afterward, the author observed behind the ear of the side operated upon a circumscribed spot from which the hair had fallen out, but which indicated no other change. By microscopic examination the hair papillæ and the hair roots were found to be absent from the hairless spot, while the other constituents of the skin remained as they were. The author regarded this result as evidence of the existence of trophic nerves.

The physiology of fatigue has been the subject of elaborate researches, the results of which are still indeterminate. In regard to the points of the nervous system first affected, Dr. G. V. Poore, in his papers on "Writer's Cramp" and allied affections, adduces facts that tend to support the hypothesis that they are situated in the peripheral apparatus. The experimental evidence adduced by Dr. Augustus Waller is confirmatory of this view. The pathological manifestations are also not sufficiently understood. Prof. Angelo Mosso says that fatigue carried beyond the moderate stage, at which it is beneficial, subjects the blood to a decomposing process through the infiltration into it of substances which act as poisons—substances which, when injected into the circulation of healthy animals, induce malaise and all the signs of excessive exhaustion. That the chief cause of fatigue is the production of certain substances and their action on the tissues is not a self-evident proposition, because it seems to be clear that any tissue excited unduly in a given space of time must become exhausted. And it is equally possible that fatigue as a sensation may be caused by the nega-

tive condition of diminished reconstruction as well as by the positive one of actual irritation by the products of metabolism. The facts at present ascertained seem to prove that the negative and the positive states are both operative in the causation of fatigue.

A study of electrical currents in the skin from mental excitation has been made by Herr Tarchenoff. Unpolarizable clay electrodes, connected with a delicate galvanometer, were applied to various parts, and after compensation of any currents that occurred during rest, the effects of mental stimulation were noted. Light tickling with a brush, hot water, sound, light, taste, and smell stimuli caused, after a brief period of latency, a gradually increasing deflection; cold, or the pain from a needle prick, the same effect in a less degree. If the eyes have been closed for some time, the mere opening of them causes a considerable deflection from the skin of the hand. Different colors here acted unequally. The currents also arise when the sensations are merely imagined. Mental effort produces currents varying with its amount. Under tense expectation the oscillations are irregular. When the electrodes are on the hand or arm, a voluntary movement gives a strong current. In all the experiments it appeared that, with equal nerve excitation, the strength of the skin currents depended on the degree to which the part of the skin bearing the electrodes was furnished with sweat glands.

It appears from the researches of Dr. Goldscheider, of Berlin, that the sensitiveness of the articular surfaces of joints is dependent not so much upon the irritability of the surfaces of the joints as on that of the epiphyses. The greatest effect was produced by direct stimulation of the marrow of the respective bones, while stimulation of the compact bone substance showed that this was insensitive.

Circulation.—As the result of his studies on the blood corpuscles, Dr. C. S. Minot reports the conclusion that they are derived from cells in the interior of the primitive blood vessels, these cells resulting from a multiplication of the cells composing the vessel walls. The corpuscle thus formed gains, in its mature stage, by an increase of its protoplasm. In some animals the nucleus synchronously diminishes. These are the red corpuscles. The white corpuscles are formed in the tissues by a change from certain tissue cells derived from the middle embryonic layer. These appear in the blood at the time when the red cells are about half-way between the embryonic and mature forms. A third corpuscle is without a nucleus and is simply a differentiated portion of the protoplasm of the vessel walls. These are the true red corpuscles. Briefly, then, there are four stages in corpuscle development—the original nucleated red corpuscle, the stage of the same in which the nucleus is markedly granular and the protoplasm increased, the embryonic or amphibian form, and the final true non-nucleated red corpuscle; the white cells appear between the second and third stages.

The problem of the coagulation of blood recognizes three factors as having a part in the operation, viz., a coagulable material, a ferment, and certain salts. Investigation has been pre-

dominantly directed to the first two factors, while the third has been left in comparative neglect. In entering upon its study, Sydney Ringer and Harrington Sainsbury find a similarity between the act of muscular stiffening in *rigor mortis* and the act of clotting of the blood. In both there are the passage of a substance from the liquid to the solid state, with evolution of heat, the development of an acid, and the appearance of carbonic acid. From this comparison the passage is direct to a comparison between the contraction of muscular fiber and the act of clotting of the blood. Experiments with contracting muscles have shown that the presence of certain salts exerts a marked effect on the act of contraction; and among salts those of lime are catabolic in function, effecting a passage from higher to lower vitality, while those of potassium are anabolic, or of an opposite character. The authors inquired in their experiments whether a similar relation of the salts obtained to the act of clotting. Their conclusions are a confirmation of the statement made by Green that calcium is an essential to the act of clotting; amplification of his statement by the determination that calcium chloride is a very efficient salt in favoring clotting, and conclusion from experiments of themselves and others that the effect of calcium is a generic effect, belonging probably to all its salts; determination that strontium and barium act like calcium, but are less powerful; suggestion that this action will be found to appertain to the salts of strontium and barium generally; determination of the restraining action of potassium and sodium salts—the potassium effect being less than the sodium effect; and antagonism of the salts of lime, strontium, and barium on the one hand, and of potassium and sodium on the other.

An investigation of the cause of the first sound of the heart, by J. Berry Haycraft was directed to the determination of the question of fact, whether the resonance tones, or muscle sounds which will undoubtedly accompany the contraction of the ventricle are accompanied by a true valvular note as well. The author, who believes his own ear to be tolerably good, availed himself of the assistance of two other gentlemen, who had musical attainments of a high order. The conclusion drawn from the experiments is that the first heart sound is an impure musical note, a minor third below the second sound, and in the bass clef. It is a valvular sound like the second sound. It is accompanied by resonance tones of the chest, stethoscope, and ear, which are produced by the shock of the contracting heart. It is also possible that concomitant sounds are produced by the rushing of the blood and other minor disturbances.

Experiments by Sydney Ringer previously reported upon have shown that heart contractility in frogs is sustained by an adequate mixture of calcium and potassium salts in saline solution; that while distilled water is by reason of its disintegrating action on the exposed tissues destructive to fishes, the effect of sodium chloride, sodium bicarbonate, and potassium chloride added singly is to cause life to be sustained much longer; that distilled water quickly disintegrates the tissues of cilia, while sodium and calcium salts prevent their disintegration; and that

swelling of the fucoid laminaria in distilled water is not lessened by the addition of sodium or potassium salts, but is greatly controlled by the addition of a minute quantity of a calcium salt. The current substance binding the cells in both animal and vegetable tissues appears to be similarly affected by lime, which hinders their imbibition of water and prevents swelling in the algae and disintegration in the case of the fish. Continuing his investigation, Dr. Ringer's latest paper is on the influence of lime, sodium, and potassium salts on the development of ova and growth of tadpoles. Frog's spawn placed in distilled water develops not at all, or but little, but undergoes a swelling of the mucilaginous envelope and a separation and enlargement of the vitelline membrane. With chloride and nitrate of lime development proceeds further than with distilled water, but not so far as with calcium sulphate, while this, in its turn, is far inferior to tribasic phosphate of lime. These results correspond to the influence of lime salts on the frog's heart. Tadpoles placed in distilled water die in from twelve to eighteen hours, while the epithelium separates in flakes. They likewise die sooner in water containing bicarbonate of soda, lime water, calcium chloride, and sulphate of lime; while carbonate of lime and tribasic phosphate of lime sustain life for a considerable time. The author invites attention to the interesting fact brought out in his experiments that those lime salts most efficacious in sustaining function of cardiac tissue are those best adapted to sustain life in ova and tadpoles. He also remarks that it would appear that those salts of lime in which the lime atom is least saturated by the acid are the most capable of sustaining function.

Investigations of the regulation of the blood supply of the brain have been conducted by C. S. Roy and C. S. Sherrington in experiments on the stimulation of various nerves and the action of a number of drugs. The principal general conclusions drawn from the study are that the blood supply of the brain varies directly with the blood pressure in the systemic arteries; that when the vaso-constrictor centers are excited directly in the normal animal, by interference with the nutrition of the brain and spinal cord, the rise of the aortic blood pressure which results is advantageous to the economy in that it increases the blood supply of the central nervous system; that the rise of arterial pressure, which may result from certain centripetal nerve impulses, is of benefit to the economy by increasing the blood supply of the central nervous system, which is called into increased functional activity by the impulses in question, as well as by aiding the congestion of the part of the body whence the impulses are derived; that there is no evidence of the existence of vaso-motor nerves for the brain outside of the cerebro-spinal canal; and that the chemical products of cerebral metabolism contained in the lymph that bathes the walls of the arterioles of the brain can cause variations of the caliber of the cerebral vessels, and that in this reaction the brain possesses an intrinsic mechanism by which its vascular supply can be varied locally in correspondence with local variations of functional activity.

The view having been put forward by Fick that the mode of action of the clotting ferments

is fundamentally different from that of the ordinary digestive enzymes, the subject has been more fully investigated by A. Sheridan Lea and W. Lee Dickinson. Their conclusions are adverse to the validity of Fick's view, and in the results they obtained they see nothing but a confirmation of what had previously been believed as to the mode of action of rennin and fibrin ferment being essentially similar, as far as concerns contact between the ferment and the alterable substance to that of other well-characterized enzymes.

The object of a series of plethysmographic studies by Henry Sewall and Elmer Sanford was to determine the effect of electrical stimulation upon the blood vessels of man by measuring the changes in volume of the organ supplied by them. The organs stimulated were the finger, by passage of electric currents superficially through it, and those tissues of the forearm to which the ulnar nerve is distributed below the elbow. Different forms of current were applied, of which rate of interruption and direction appeared to have, of themselves, no characteristic influence. The intensity of the stimulus, on the other hand, was of the greatest importance in determining the effects produced. Strong stimulation caused pronounced and long-continued contraction of the blood vessels, while weak or moderately strong stimulation was accompanied, after an initial temporary contraction, by vascular dilatation. The nature and extent of the after-action appeared to depend more on the condition of irritability of the vaso-motor mechanism than on the strength or character of the irritation employed. The results obtained from direct stimulation of the finger differed from those due to irritation of the ulnar nerve in the greater frequency with which simple contraction occurred in the first case, while in the second case dilatation both during and after stimulation was a usual effect. The most important conclusion to which the experiments lead is that the results appear to be due not to direct excitement of the peripheral blood vessels or their motor nerves, but to reflex action through stimulation of sensory filaments.

It has been observed that intraperitoneal transfusion of blood is followed in a very short time by an increase in the number of corpuscles, amounting sometimes to 34 or 40 per cent. in the course of a few hours. The effect was ascribed by some authors to absorption of red corpuscles from the peritoneal cavity; but William Hunter maintained that the rise in number was more apparent than real, and was due to an increase in the density of the circulating blood resulting from the operation. The operation was accompanied by a considerable amount of irritation as well as by changes in the blood, and indicated to Mr. Hunter that both results pointed to an effusion of serum from the vessels of the peritoneal serous surfaces. This effusion, leading to a concentration of the circulating blood, would, apart from any absorption of corpuscles, cause an apparent rise in the number of corpuscles per cubic millimetre of blood remaining. Besides a rapid increase in density, which subsided as rapidly, a more gradual and more permanent increase was observed, which was regarded as due to an excess of corpuscles. The author's later experiments confirm the correctness of his explanation.

Apart from their bearing on the fate of corpuscles after transfusion, his results point to peritoneal transfusion as an effective method for raising the specific gravity of the blood.

It was established by Haycraft that a watery extract of the anterior part of the medicinal leech has, when mixed with shed blood or injected into the circulation, a strong delaying or preventing action upon clotting. W. L. Dickinson has experimented with a view to isolating the active principle of this extract and studying its action. The reactions of leech extract show that it contains a proteid with some features in common with Kühne's proto-albumen, and other features in common with deuto-albumen. It is found to exercise a destructive action on fibrin ferment; and there seems to be ground for concluding that cell globulin may be deprived by it of fibrino-plastic power without suffering alteration in its physico-chemical qualities.

An instrument used by Dr. G. N. Stewart to measure differences of temperature between the artery and vein of a limb or organ, consists of a pair of vulcanite holders, each having a fine platinum wire disposed in a groove which receives the vessel. The measurement is made by the resistance method. The method has the advantage that the vessels do not require to be opened. The temperature measured is really that of the outside of the vessel, but when the latter is inclosed in the groove this can not differ appreciably from that of the blood.

Concerning the effects of inhalations of certain anaesthetics on the circulation and respiration, Dr. Löhrer says that bromethyl slows the respiration, leaving the inspirations unaltered, but rendering the expirations weaker and weaker till they disappear; at an early stage of its action respiration becomes again normal if the animal is supplied with fresh air, but later on this is not the case, and death ensues by the action of the drug on the heart. The effect on the circulation is to quicken it at once; the blood pressure falls, the pulse becomes arrhythmic, and finally ceases; the left side of the heart is now found to be empty, while the right is gorged with blood. It hence appears that bromethyl affects the two halves of the heart differently, and thus probably gives rise to asymmetry of the pulse. When the vagi are cut off the effect of the drug on both circulation and respiration is longer in appearing. Nitrous oxide has a more powerful action on respiration; the inspirations diminish rapidly and cease suddenly. Normal respiration may be restored by fresh air if the action of the drug has not been too prolonged. The effect on the heart is to increase the blood pressure. The general conclusion is that bromethyl must be more cautiously employed than nitrous oxide.

Respiration.—The object of a paper by Henry Sewall and Myra E. Pollard on the relations of diaphragmatic and costal respiration is to emphasize the physiological relations already known to exist between the different groups of respiratory muscles (those which produce changes in the capacity of the thorax by direct movement of its bony framework and the diaphragm and muscles of the abdominal wall). The results of experiments directed to that point show that the vital capacity as determined by costal is much in excess of that determined by diaphragmatic res-

piration; and this agrees with the fact that breathing is always of the costal type when the respiratory needs of the body are unusually urgent. It appears also that the sum of the vital capacities determined by movement of the ribs and diaphragm separately is considerably in excess of that which measures the extent of the simultaneous action of all the muscles. Attention is called to a type of respiratory movement related to the fact that the air in the breathing apparatus increases in its content of carbonic dioxide and loses oxygen progressively from the external orifice to the lung alveoli; and the movements of respiration, so far as concerns the demands of the body, simply cause a more complete mixture of gases already in the lungs. If the glottis be closed and such respiratory movements be made as to stir together the gases already contained in the air cavities, the physiological result will be the same as that of genuine respiration with open glottis. The respiratory needs of the body may be thus fairly well satisfied for a considerable time without inhaling fresh air. The alternate movements of the chest and diaphragm, which take place as one of the first symptoms of distress for want of air, have their function thus explained. The simultaneous inspiratory and expiratory actions of the two sets of muscles which take place under these circumstances are called complementary movements of respiration.

A second application of the experiments was made to determine what relation, from a physiological and an artistic point of view, the complementary movements of respiration may have to vocalization. The general conclusion drawn from a preliminary inquiry is that, while the main volume of the vocal blast is properly supplied by the steady sweep of diaphragm and abdominal muscles, the accent which gives life to song and speech is accompanied and supported by a characteristic play of chest and diaphragm in which the rapid changes of the fundamental note of the great thoracic resonator adjust it anew for every note sent out from the vocal cords.

The experiments of Fred Smith on the chemistry of respiration in the horse during rest and work were tried with all the usual paces of the animal. In the case of the different actions, the experimental apparatus was applied instantly on the end of the action, and held for twenty seconds. Two hundred and fifty-one experiments were made upon 35 horses. At rest the respirations varied in number from 9 to 12 per minute, and the quantity of air expired from 25 to 145 cubic feet per hour, from 70 to 80 cubic feet per hour representing a fair average. After walking the mean amount of air expired was 133.55 cubic feet per hour; after trotting (nine miles per hour), 288 cubic feet per hour; after cantering, largest amount, 604, smallest amount, 231 cubic feet per hour; after the gallop, mean amount, 849.09 cubic feet per hour. The tests were also applied to the amounts of carbonic acid exhaled and of oxygen absorbed. Some features of the author's apparatus are criticised by Drs. N. Zuntz and C. Lehmann, who, experimenting upon horses while actually working in a treadmill apparatus constructed specially for the study, have obtained values far greater in all the items than Mr. Smith's. They further observe that the differ-

ences in the numbers obtained by Mr. Smith in individual experiments are much larger than variations exhibited in their own experiments when the work done by the horse was identical; and they find a harmony between the amounts of carbonic acid produced by these animals and the amount calculated on the basis of the food given; all of which they claim as in favor of the superior accuracy of their larger values. Mr. Smith replies that differences in the breeds of the horses experimented with may have had something to do with the differences in results.

The effect of an increase of intercranial pressure or tension on the circulation and respiration has been investigated by Walter Spencer and Victor Horsley. The authors find that the functions named are influenced through the diminution in the physiological activity which the increased pressure causes. A considerable increase of the intercranial pressure was required to influence the heart; it became slowed and finally arrested. This happened more readily after respiration had ceased, and required a higher pressure to produce it when artificial respiration was employed, while division of both vagus nerves abolished any slowing or arrest. A primary rise of blood pressure was followed by a fall distinct from that produced by the slowing of the heart, and not necessarily accompanying it. The power of producing this effect was easily lost. Respiration was likewise impaired and arrested. Its arrest reacted upon the heart and the blood pressure upon it, so that after the rise of blood pressure respiration occurred, even though a much higher intracranial pressure was maintained than had been sufficient to arrest it when the blood pressure was lower. The results are also noted of direct applications of pressure to different portions of the heart.

The statement of Donders that the inhaling of carbonic acid at the end of an expiration materially increases the depth of the ensuing expiration, is confirmed by the experiments of Dr. Zagari as described by Prof. Gad. This reflex effect is not observed after section of the vagi, and is not affected by section of the recurrent laryngeals. It did not take place when a glass tube was pushed down the trachea and one bronchus, so as to protect those portions of the air passages from the action of the gas, but it reappeared on withdrawing the tube till its end rested at the bifurcation of the bronchi. The effect was observed when the carbonic acid was diluted with 50 per cent. of air, but not upon further dilution. Marshall Hall's theory of respiration receives no confirmation from these experiments.

Digestion.—Of the results of his research in the physiology of the salivary secretion upon the connections of peripheral nerve cells with the nerve fibers which run to the sublingual and submaxillary glands, J. N. Langley lays especial stress on the conclusions that both the secretory and vaso-dilator fibers of the chorda tympani are connected with nerve cells. The nerve cells on the course of the fibers to the sublingual gland are scattered over the whole of the gland forming a number of small ganglia; one of these is the ganglion commonly called the submaxillary ganglion. The real submaxillary ganglion lies in the hilus of the gland, but a

few nerve cells occur a little earlier on the chorda-tympani fibers, and a few a little later. The sympathetic fibers which run through the superior cervical ganglion are connected with nerve cells in this ganglion, but at no other place in their course from the spinal cord to their ultimate endings.

The objects of a comparative study of natural and artificial digestion by A. Sheridan Lea were to obtain in artificial digestions some closer approximation to the general conditions under which natural digestion is carried on in the body, and to apply the improved methods of carrying on artificial digestion to the elucidation of some special differences which so far have appeared to exist between the natural and artificial processes. An apparatus is described by means of which digestions can be carried on in a dialyzer in such a way as to provide for the constant motion of the digesting mixture and the removal of digested products. By this method a partial reproduction is provided of two of the most important factors in natural digestion. Experiments upon the salivary digestion of starch conducted under otherwise similar conditions in the dialyzing digester and a flask show that the rate of digestion in the former is always greater than in a flask, while the tendency to the development of bacteria is greatly lessened: that the amount of starch converted into sugar is always greater in the dialyzer; and that the total sugar formed and small residue (4.29 per cent.) of sugar left during an active and prolonged digestion in the dialyzer justify the assumption that, under the more favorable conditions existing in the body, the whole of the starch is converted into sugar before absorption. These results afford an explanation of the existing discordant statements as to the nature and amount of products formed during starch digestion. Experiments upon the tryptic digestion of proteids dealt chiefly with the formation of leucin and tyrosin, and were undertaken, initially, in order to find out why those crystalline products are formed in large amount during an artificial digestion, while they have so far been described as occurring in mere traces during natural digestion. The results of the experiments made it probable that leucin and tyrosin should be formed during natural digestion. Examination of the contents of the small intestine during proteid digestion showed that, contrary to existing statements, leucin and tyrosin are formed in not inconsiderable quantities during the natural process. The last part of Mr. Lea's communication deals with the probable physiological importance of the formation of amidated bodies during tryptic digestion, and a view is put forward as to the possible and probable importance of amides in the chemical cycle of animal metabolism.

The studies of D. Noel Paton on the composition and flow of chyle were pursued with chyle obtained directly from the thoracic duct of a hospital patient afflicted with a sarcoma on the posterior triangle of the neck. The average rate of flow of milky fluid from the wound occasioned by the operation was found to be 1 c. c. in one minute, or 1,584 c. c. in 24 hours. The chief points of interest brought out by the analysis of the composition of the fluid were: The

small percentage of solids and their steady decrease during the course of the observation; the tolerable uniformity in the amount of the inorganic substances; the small amount of the proteids (the patient's blood pressure was very low); the correspondingly small amount of cholesterol, which is of interest as indicating that this substance has a source common with the proteids; and the large proportion of fats, which is probably to be accounted for by the comparative richness of the patient's diet in those constituents.

The fact that fats with a high melting point, such as stearin, are not absorbed, is usually adduced in support of the supposed importance of emulsification; but some experiments described by Dr. L. Munk show that a small amount (5 to 7 per cent.) of this fat may be absorbed. In support of the saponification of fats the author has described some experiments made on a patient with lymphatic fistula and on dogs. When spermaceti was administered to the patient after prolonged fasting the lymph became cloudy and milky in the fourth hour of digestion. Analysis of the whole lymph secreted during thirteen hours showed that 15 per cent. of the spermaceti had passed into the lymph, not, however, in an unchanged condition, but as palmitin, showing that the spermaceti must have been decomposed in the alimentary canal, and that the palmitic acid, of which it is partly composed, must have become united with glycerin. Further experiments with amyl alcohol verified the decomposition of this fat by producing symptoms of poisoning with amyl alcohol. The compound could not, on account of its pungent taste, be given in large enough doses to the patient with lymphatic fistula to be conclusive; but an analysis of the lymph secreted from the fourth to the twelfth hours showed that it contained not the compound of oleic acid and alcohol, but olein—a further proof of its decomposition before absorption. So many difficulties stand in the way of the view that all fats are saponified before absorption that the author considers the various points in connection with fat absorption as still undetermined.

Some six or seven different proteids having been described as existing in milk, an investigation of the whole subject has been made by W. D. Halliburton to test the accuracy of the designations. The principal points to which the author would direct attention in his results are: The principal proteid in milk, called caseinogen, is precipitable by certain neutral salts, or by acetic acid, and may be most satisfactorily prepared, free from impurities, by a combination of these two methods; the term casein should be restricted to the curd formed from caseinogen by the action of rennet. In the classification of proteids casein should be grouped with other insoluble proteids like fibrin and gluten formed by ferment activity from pre-existing more soluble proteids; caseinogen should be classified in a new group, made to include it and whey proteid. These proteids are similar to the globulins, the chief difference being that their solutions are not coagulated by heat like those of the globulins, but are only made opalescent. This opalescence, if the heating has not been continued too long, disappears on cooling. Lact-albumen is similar in its properties to serum-albumen. It differs,

however, from serum-albumen in its specific rotatory power, in its behavior on coagulation, and in precipitability by certain neutral salts. Casein and lact-albumen are the only proteids contained in milk, the existence of such bodies described as lacto-globulin, lacto-protein, peptone, and hemi-albumose, having been predicated on faulty methods of analysis. When milk turns sour in consequence of the lactic-acid fermentation, primary proteoses, chiefly proto-proteose, are developed. The proteid called whey proteid, which is formed during the rennet fermentation, is not of the peptone or proteose class, but should be included with caseinogen in a new class of proteids allied to the globulins.

From experiments made upon sponges of eighteen species by introducing various substances into the water of the aquarium Dr. Lendenfeld, of Innsbruck, finds that absorption of food by them does not take place at the outer surface, but in the interior; only foreign substances, used for building up the skeleton, enter the sponge without passing into the canal system. Grains of carmine and other matters often adhere to the flat cells of the canals, but true absorption only takes place in the ciliated cylindrical cells of the ciliated chamber. These get filled with carmine grains or milk spherules, but starch grains prove too large for them. Remaining in these cells a few days, the carmine cells are then ejected, while milk particles are partly digested, and then passed on to the migratory cells of the intermediate layer. Any carmine particles found in these latter cells have entered accidentally through external lesions. The sponge contracts its pores when poisons are put in the water; and the action is very like that of poisons on muscles of the higher animals. Especially remarkable is the cramp of sponges under strychnine, and the lethargy (to other stimuli) of sponges treated with cocaine. As these poisons in other animals act indirectly on the muscles through the nerves, it seems not without warrant to suppose that sponges also have nerve cells which cause muscular contraction.

Muscular System.—The experiments on muscular tremor described by W. P. Herringham were partly physiological and partly pathological. They related to the tremors of voluntary contraction, great effort, chronic cases, paralysis agitans, lead tremor during effort, muscular atrophy, ankle clonus, and those dependent upon some rapid spinal lesion. The tremors of voluntary contraction exist in connection with a massive movement. In all willful contraction the bone tends to move from the position of rest. But there are tremors in which the bone merely oscillates about the position of rest without moving its mean point, and there is no massive action. On the hypothesis that tremor appears only as a characteristic of massive contraction, it is easy to explain it. It appears because this contraction is discontinuous. But, if that be true, to say that it occurs without massive contraction is to say that the mode of contraction occurs without the contraction itself. In the tremor that occurs after great effort, the trembling goes on after the muscle has returned to a position of rest. Yet this tremor, which is not accompanied by a massive movement, must be the same as the one which existed a moment

before during the effort (in the case cited, a lift). But if so, then tremor is not a mode of massive contraction, but something else different from it, and which may exist without it as well as with it. The explanation of the problem is sought by the help of other facts known to us about muscle. There are two properties in muscle—contractility and elasticity. In a healthy muscle elasticity appears to be in constant action. It is probable that contractility is also constantly at work, and that there is a state called tone due to this opposition. It seems possible that the slight amount of voluntary contraction which is thus inferred to exist may be of a rhythmical character, and that the normal state of healthy muscle, when not undergoing willful contraction, is one of slight to-and-fro longitudinal movement due to rhythmical contraction followed by elastic extension, or perhaps of slight alternating longitudinal and transverse contraction. Something of the same kind seems to occur in unstriated muscle. Assuming this to be the case, this movement is invisible in ordinary people when at rest; but in a few persons—the naturally tremulous—it can always be seen, and in most others certain poisons—tobacco and alcohol, for example—or states of general exhaustion, such as sleeplessness, make it visible. This alteration from the normal depends upon increase of the rhythmical movement. If this movement in normal conditions be supposed to be caused by an exciting, and to be restrained by an inhibiting nervous apparatus, then these abnormal rest tremors may be due to weakness, inherent or acquired, of the inhibitory apparatus. A similar increase of longitudinal movement causes the tremor of great effort or of fatigue and lead poisoning. In these cases excessive stimulation of the exciting apparatus for voluntary motion so exaggerates the movement as to produce the curves which we see under these conditions. It is suggested that the tremors of rage and nervousness and those which occur during fevers are of the first variety, due to weakness of the inhibitory nerves, and that the seven or eight per second movement of ankle clonus is this same involuntary rhythm, exaggerated by the sudden increase of tension and slowed by the alteration in muscular elasticity which occurs in these cases.

The phenomena of voluntary and reflex muscular contraction have been studied by J. Berry Hayscraft with reference to the theory that muscular contraction is sustained by a series of impulses discharged by the nerve element into the muscular element so rapidly that the muscle has not any time to relax between them, which the author calls the "natural-tetanus" theory. The general conclusions are drawn from the experiments that during a reflex or a voluntary muscular movement the muscles involved exhibit fascicular or other local movements due to unco-ordinated discharge from the central nervous system, and perhaps due also to variations in excitability or activity of the fibers or fasciculi affected. These contractions, although not rhythmic, may occur with some rough average frequency, and they cause the muscle sound which has been remarked by some authors (Wollaston, Paul Erman, Samuel Houghton, and Helmholtz), which is a sensation produced by these move-

ments and by the vibrations of the membrana tympani compounded with them.

Criticising the recent study of Argutinsky on muscular work and nitrogenous metabolism, according to which work done in climbing a mountain and the heat produced are the outcome of the breaking down of nitrogenous material, Dr. I. Munk comes to the conclusions that the climber's body was not in nitrogenous equilibrium even during rest, and that the amount of carbohydrate taken by him is insufficient to account for the heat production during rest. Both these factors lead to an increased nitrogenous metabolism when extra work is done, the energy required for the excess of work being obtained from the breaking down of proteids; hence no conclusions as to what normally takes place can be drawn from Argutinsky's experiments. It was further pointed out that Oppenheim's experiments have shown that dyspnoea leads to increased nitrogenous metabolism, and that hence dyspnoea may probably have played some part during the exertion of excessive climbing. While he did not doubt the accuracy of the experiments, the author did not feel that the conclusions which Argutinsky had drawn from them were justifiable.

Vegetable Physiology.—M. Victor Jodin communicated to the French Academy of Sciences in February "A Study of Chlorophyll, in Connection with M. Regnard's Induction that the 'Chlorophyll Function'—that is, the Property of Decomposing Carbonic Acid—is of a Purely Chemical Order inherent to Chlorophyll, and continuing to act apart from the Physiological Conditions." M. Jodin's experiments appear to point to somewhat different results, and to show that a general theory of chlorophyll, based on well-established facts, has yet to be framed.

Anna Bateson and Francis Darwin have experimented, to aid in illustrating the phenomena of growth, upon the effect of certain stimuli on vegetable tissues. The experiments were made with turgescent pith (of the sunflower and Jerusalem artichoke), which when relieved from the unyielding external tissues that restrain it, at once expands by becoming longer. The ordinary course of growth of the pith in water was first observed. It was found that in this what was called a *grand period* takes place—that is to say, the growth is at first slow, then more rapid, and ultimately becomes slow again, the whole period taking perhaps twenty minutes. This is precisely the series of changes which a growing organ exhibits in the course of days instead of minutes. If the water in the jar is gradually warmed, the growth of the pith increases in the most striking manner up to about 95°, after which it usually becomes irregular with some diminution; and, just before a temperature is reached which kills the tissues, a rapid fall in the rate of growth sets in. The addition of alcohol to the water caused an increase in the rate of growth for a short time. Similar results were obtained with ether in small fractions, administered in the form of vapor, but when the proportion of ether amounted to 3 per cent. of the atmosphere the pith was killed, and showed no increase but a decrease in length. Ammonia caused a temporary acceleration of growth. As a rule, acids produced no accelera-

tion, but caused either retardation or flaccidity and death; but hydrocyanic acid had an action comparable to that of alcohol. Extremely dilute solutions of quinine chloride acted poisonously, and produced a shortening of the tissues. The most interesting fact established by these experiments is the possibility of stimulating turgescent tissues to increased elongation by such reagents as alcohol, ether, and hydrocyanic acid.

The properties of pituri—an alkaloid extracted from the leaves of an Australian shrub which are taken by the natives as other races take tobacco—and of nicotine, have been studied by J. N. Langley and W. Lee Dickinson. As a rule, the physiological action of pituri was found to be identical with that of nicotine. The successive stages of nicotine poisoning are those of excitation, spasms, quiescence, flaccidity, paralysis of the central nervous system, and paralysis of motor nerve endings. On the heart, a small dose causes primary slowing of the beat, and may cause a diastole lasting up to a minute; on recovery of the heart beat, the initiatory fibers of the vagus are paralyzed; except with a small dose the primary inhibitory effect is slight, and with a large dose it is absent. The heart beat continues after very large doses. On the bodily movements it causes clonic spasms and twitchings of the muscles, and may cause convulsions and ophisthotonos. Its effects on the pupil, vaso-motor system, and other parts of the vital economy, are also studied and compared with those of pituri, and no obvious difference is found between the two substances.

The seeds of the *Trichosanthes palmater* are inclosed in a rounded scarlet fruit and imbedded in a green bitter pulp. The bitter principle has been shown by Mr. D. Hooper to be a glucoside differing from colocynthin, and he has named it trichosanthin. The green coloring matter, when freed from the trichosanthin and fatty matter, yields a solution closely resembling a solution of chlorophyll. It is green in thin, and red in thick layers, and has a red fluorescence. The spectrum, however, is different. The conclusions to be derived from the study of it, seem to be that we have in the trichosanthes coloring matter a substance in which the "blue chlorophyll" of Sorby or the "green chlorophyll" of Stokes is replaced by some other substance easily decomposed by reducing agents and acids.

An investigation is in progress by Herr Kuy, in Germany, of the relation between the branches and roots of trees, the object of which is to determine whether they are capable of exchanging functions. A number of plants of *Ampelopsis* and ivy were planted, with both ends in the ground, and in the next year, after the tops had rooted, the arches were cut at their highest point. In the first year two of the plants died, but the others, twenty-six in number, grew vigorously and were alive in the spring of 1889, four years afterward. To test the extent of the inversion, slips were cut from the inverted plants and planted in a green-house, some with their natural and some with their artificial end uppermost. The callus, from which the roots spring, was formed at both ends, but more readily at the natural lower end, whether this was above or below, in the experiment. The author,

notwithstanding several years' successful cultivation, does not consider the experiment complete, and will continue the investigation. It could easily be prosecuted by every one with raspberry plants.

Australian sheep are said to thrive wonderfully upon the "scrubby" plants of the *Atriplex* family, which grow abundantly in some of the pastoral districts of the country, and to secure an immunity from disease that is unknown in the richest grass districts. Analyses of specimens of two of the species by R. W. E. Macivor show that they contain more than twice (26.61 to 27.60 per cent.) of the average quantity of ash found in any other known plants. Their high value as fodder is due to the proportion of carbonaceous and albuminous nutrients they contain, and also to the chlorides and potash, which aid digestion and contribute to the production of "surut."

Experiments have been made by M. De Candolle with various hardy seeds to determine the effect of the temperature of congelation upon germination. They go to show that while seeds can be kept in damp air and darkness at the temperature of the freezing point without impairing their vitality, germination will not take place at that temperature.

Poisons.—Experiments by M. Greenwood on the action of nicotine upon certain invertebrates show that the toxic effect of this agent on any organism is determined mainly by the degree of development of the nervous systems. In the simplest animals, as ameba, etc., it can not be regarded as exciting or paralyzing; it is rather inimical to continued healthy life. As soon as any structural complexity is reached the action of nicotine is discriminating, and discriminating in such a fashion that the nervous actions, which are the expression of automatism—which imply co-ordination of impulse—are stopped first. In the higher invertebrates, the paralyzing action of nicotine is preceded by a phase of stimulation. As this positively exciting action becomes noticeable, nicotine becomes more and more a medium in which life is impossible. When very simple animals die under the action of nicotine, death is associated with injury of their substance, so that it tends to disintegrate. The definite poisoning that occurs in higher types has sometimes as one of its after-effects a lingering trophic disturbance. While nicotine acts on any organism according as the nervous system is or is not developed, animals which have enough in common to stand near each other in classification may yet react differently, each according to what may be called its own balance of organization.

The experiments of Dr. T. J. Mays on the differential action of brucine and strychnine upon the frog, while they demonstrate that the two alkalies have a few points of action in common, also show that they possess so many dissimilar points as to justify the belief that their difference is one of kind as well as of degree. Their agreement of action consists in causing death by arresting respiration, and in tending to produce convulsions. The points of difference are: Brucine primarily affects the posterior, while strychnine first affects the anterior extremities of the frog; convulsions appear very early in

strychnine, and if at all very late in brucine poisoning; convulsions invariably develop before death occurs in strychnine poisoning, while death very frequently occurs from pure brucine poisoning without a trace of spasm; brucine diminishes sensibility when locally applied, while strychnine does not; the local anæsthetic effect of brucine appears to bear a direct relationship to its degree of freedom from strychnine.

The results of an investigation of the method of operation of chloroform are given in the report of a commission of physicians who were appointed by the Nizam of Hyderabad to take the subject in hand. The commission availed itself, in forming its conclusions, of the evidence afforded by nearly 600 experiments, 157 of which were made with, and 430 without recording apparatus. The experiments of the latter class were directed, first, to the general action of chloroform given in various ways, in various dilutions, and in different conditions of the animal; and, second, to the limits within which artificial respiration may restore life, and the effect of morphine, strychnine, atropine, and other drugs in modifying the action of the anæsthetic and the reviving power of artificial respiration. Two views regarding chloroform are commonly held—one that it may kill by paralyzing the heart directly; the other that it really kills by paralyzing respiration, and only stops the heart indirectly through the asphyxia which quickly follows stoppage of the respirations. The result of the labors of the commission appears to show that there is some truth in both views, but that when chloroform is given in the ordinary way by inhalation, it is the respiration that is stopped first. When chloroform vapor is blown down the trachea, the heart may be stopped by it, but when the vapor is drawn into the lungs in the usual way by the movements of the chest, this is not the case, for, the respiratory movements being arrested first, their stoppage prevents any more chloroform vapor from being taken into the lungs. Embarrassment of respiration constitutes the first sign of danger, and should be attended to at once. The breathing should not be allowed to stop, but if it should do so by any accident, life may still be preserved by the use of artificial respiration. Should the interval of asphyxia between the stoppage of natural breathing and the commencement of artificial respiration be too long, the heart may fail to such an extent that artificial respiration is in vain; and if the administrator waits for a falling pulse to warn him of danger, the warning may come too late. Some previous experiments by a committee of the British Association seemed to show that chloroform not only lowers the blood pressure and paralyzes the heart, but does so sometimes in an unexpected and capricious manner. The commission repeated these experiments, and found a similar fall of blood pressure and lowering of the pulse, but attributed them to asphyxia rather than to chloroform. The work of the commission thus points to the conclusion that deaths from chloroform in man are due to asphyxia; and the commission considers that by careful attention to the respiration all deaths may and should be prevented.

In his experiments on the preventive inocula-

tion of rattlesnake venom, Dr. Henry Sewall, of the University of Michigan, assumed an analogy between the venom of the poisonous serpent and the ptomaines produced under the influence of bacterial organisms. Both are the outcome of the activity of living protoplasm, although chemically widely distinct, the ptomaines belonging to the group of alkaloids, while the active principles of the venom, according to Mitchell and Reichert and to Wolfenden, are of proteid nature. If immunity from the fatal effects of snake bite can be secured in an animal by means of repeated inoculation with doses of the poison too small to produce ill effects, we may suspect that the same sort of resistance against germ disease might follow the inoculation of the appropriate ptomaine, provided that it is through the products of their metabolism that bacteria produce their fatal effects. In the author's experiments repeated inoculation of pigeons with sub-lethal doses of rattlesnake venom produced a continually increasing resistance toward the injurious effects of the poison without apparent influence on the general health of the animal.

The physiological action of ptomaines from putrefying meat has been studied by M. Gautier, who extracted the alkaloids and examined them according to their solubility in ether, chloroform, and amylie alcohol. The alkaloids obtained by digesting with ether caused in dogs convulsive movements, rapid action of the heart, injection of the ears, stupefaction, and contraction of the pupils. The chloroform extractives accelerated the respiration and the action of the heart and injected the concha. The amylie alcohol alkaloids paralyzed the movements of frogs, dilated the pupil, and killed, with general relaxation of the muscles. Free ptomaines are more dangerous than their salts, and especially those that are soluble in ether. Alkaloids called leucomaines are supposed to be formed within the tissues during the process of life. We resist them by elimination and by destruction with oxygen. Elimination is effected by the kidneys, alimentary tract, and skin; oxidation is probably chiefly effected in the circulating blood. Any cause that diminishes the access of air to the blood, or causes a decrease in the amount of hamoglobin in the body, or the introduction into the blood of substances that prevent the respiratory changes, leads to the accumulation of azotized substances of the nature of ptomaines and leucomaines.

Ansep, investigating some cases of poisoning by stale sturgeon, at Kharkov, Russia, discovered an alkaloid differing from the ptomaines of Briegleb. It is an amorphous, highly alkaline body, forming soluble salts, and extremely toxic. Caustic agents and boiling destroy the toxic power of the alkaloid. The chief characters of the substance are fixity in the solid state or in ethereal solution and slowness of reducing action on the blood. The hypodermic injection of a quarter of a milligramme in a dog causes vomiting, mydriasis, general prostration, and slowness of the movements of the heart. The march of the symptoms in the poisoned individual is in harmony with the results of physiological research, and is held to indicate that the poison first paralyzes the spinal cord, then the medulla

oblongata, and acts probably also upon plain muscular tissue.

Among the results of recent experiments on the physiological action of various substances are: Uranium nitrate is an irritant poison, producing gastro-intestinal irritation of more or less intensity. Introduced into the stomach, it checks digestion, and even stops it, but appears to increase somewhat proteid metabolism and the elimination of carbonic acid, and to raise the body temperature. On the kidneys it produces effects similar to those found in poisoning by arsenic, mercury, and phosphorus; and the production of glycosuria is a characteristic symptom. Antipyrin has a decided inhibitory influence on the proteid metabolism of the healthy human organism, and tends to diminish the volume of the urinary secretion. These conclusions are, however, contrary to the results recently published by Kumagawa. Antifebrin was not regarded as having a pronounced influence on proteid metabolism. It appeared to exercise an inhibitory influence on the excretion of uric acid. Urethran showed a diuretic action, diminished the excretion of nitrogen and sulphur, but increased that of phosphorus. Paraldehyde increased somewhat the protolytic action of pepsin hydrochloric acid, and had an inhibitory influence on the amylolytic ferment of saliva. The salts of cobalt and nickel act slowly and only when comparatively large amounts are administered, causing death by stopping the action of the heart, producing disturbance in the alimentary tract, inflammation of the mucous membrane and intestine, and causing diarrhoea. Both salts tend to produce a partial paralysis of the intestines, more pronounced possibly with cobalt than with nickel.

PORTRAITS, CRAYON. To many who know nothing about the art of crayon portraiture it seems not only very difficult, but almost unattainable. This impression may be true to a certain extent in the making of free-hand crayons from life, but the advances in the art of photography has made it possible for any person, with a little practice and study, to make a fair crayon portrait over a photographic enlargement. Three kinds of photographic enlargements are used as a basis, and with a little experience the reader can determine for himself which kind will prove the most satisfactory.

Free-hand crayons are made on the Steinbach crayon paper without any photograph as a basis. Silver enlargements are made on paper coated with a solution of chloride of silver, which the action of light reduces to the salts of silver. This is the oldest form of photography, and has been used since its introduction by Scheele in 1778. Silver enlargements are made by the aid of the sun (and are then called solar enlargements), or can be made with the electric light. Platinum enlargement is a recent advance in photographic printing with iron salts. The process has been worked out by W. Willis, Jr., and is patented. Its principle is that a solution of ferrous oxalate in neutral potassium oxalate is effective as a developer. The platinotype process is the development of printing with the salts of iron. A paper is coated with a solution of ferric oxalate and a platinum salt and then exposed behind a negative. It is then floated

in a hot solution of neutral potassium oxalate, when the image is formed of platinum black. This process was first introduced by Mr. Willis in 1874, and he has since made improvements. He claims that his platinotype paper does not contain any animal sizing. The early experiments proved to him that the paper upon which the image was to be printed would prove an important factor, as all photographic papers contained animal sizing, which was found to be antagonistic to platinum salts. The action of platinum salt upon a paper containing animal sizing gave it a tint which no amount of acid washing could remove. For the past nine years Mr. Willis has had manufactured for his especial use a Steinbach paper free from this animal sizing, and he also uses a cold developer, thereby causing the paper to retain its original elasticity.

The chief points of difference between a bromide enlargement and a silver or platinum enlargement is that in the former we have the sensitive compound of silver suspended in a vehicle of gelatin, and in the latter a thin coating of an aqueous solution of the sensitive salts. In the former process the image is not shown on the paper till after the paper has been floated in a developing solution, while in the latter processes the image is shown upon the paper when exposed to the light diffused through the negative.

The following materials will be found necessary to do crayon work: Easel and mahl-stick; 3-inch magnifying glass; three boxes of Mines Noire's crayons, Nos. 1, 2, and 3; Mines Noire's crayon holder; Faber's conte crayons in wood, Nos. 0 and 1; 6 B. and 4 H. Faber's holder for Siberian lead; velour crayon in wood; conte crayon sauce wrapped in foil; white crayon in wood; bunch of tortillon stumps; large and small gray paper stumps; rubber, 4 inches \times 4 inch square, beveled end; two small nigrovine erasers, and holder for these; piece of chamois skin; cotton batting, the best quality; a sheet of fine emery paper; square black conte crayons, Nos. 1, 2, and 3; charcoal holder; one pound of pulverized pumice stone; pasteboard box, about 10 inches square, 2 inches deep; backboards for mounting paper; pliers; paste brush, 3 inches wide.

The easel should be set so that the light strikes on the picture at an angle of 60° , and if working from a side light it will be necessary to darken the lower part of the window to accomplish this result. The mahl-stick is held in the left hand, and is used as a rest for the right arm when working. The magnifying glass is used to enlarge the small photograph while working from it. The Mines Noire's crayons are softer than the conte crayon in the wood, and are used in the earlier stages of the work for laying in the shadows. Faber's conte crayon, in wood, is for the finishing touches. The 6 B. Faber's holder for lead-pencil points is for the 0 conte crayons, after they have become short by use. The remaining wood is cut away, and the crayon points are used in these holders. The 4 H. holders for Faber's lead-pencil points is for using these points, which are only used in the very finest finishing of bromide crayons in the light places. Velour crayon is very black, and is used for producing a velvet effect and wherever it is

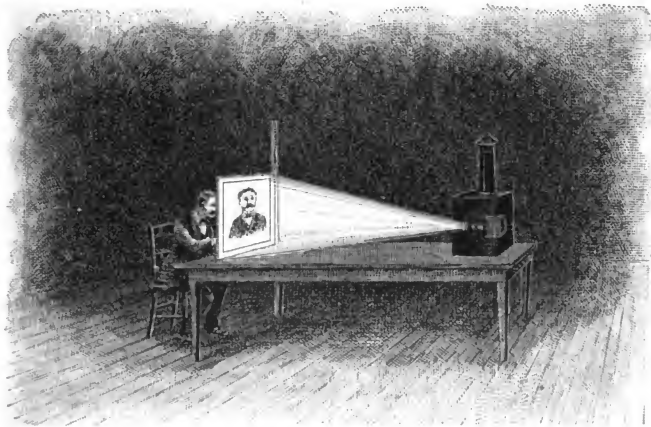
necessary to make a very strong dark—that is, a dark that is blacker than an ordinary shadow. Conte crayon sauce in the foil is for making the crayon sauce. White crayon in the wood is to be used to make the highest lights in white draperies. Tortillon stumps are used to make the face when making the stump effect. The large gray paper stumps are for producing the broad stump effects. The large eraser is for putting in the broad effects of light in the background and clothes. Nigrovine erasers are to remove the crayon whenever it is necessary to produce small decided lights, and used principally in free-hand crayons, and for the line effect over silver or platinum enlargements. Chamois skin is used to remove the crayon, for producing broad effects of light. The cotton is to apply the crayon sauce to the paper and for rubbing the portrait at different stages of completion, as the crayon can not be removed successfully with the eraser unless previously rubbed with the cotton. The chamois block is for putting on the crayon sauce; and in working with the stump the crayon sauce is taken from this block and transferred to the paper. Have a block four inches long, two inches wide, and three quarters of an inch thick, and cover it with chamois. The emery paper is to sharpen the nigrovine erasers on and the crayon points. The mortar and pestle is for pounding the conte crayon No. 1, in making the crayon sauce, which is made of one part conte crayon No. 1, to three parts of the conte crayon sauce in foil, and then pounded very fine with the pestle. The square black conte crayons are for filling in large dark places. The pasteboard box is to keep the prepared crayon sauce in. The backboards are an inch thick, and are made to fit in the back of the strainers to be used in mounting. The pliers are to stretch the muslin on the strainer.

Mounting.—Procure a strainer made of pine wood, the strips of wood to be two inches wide and one inch thick. The face of these strips must be beveled one fourth of an inch; the frame should be mitered together and glued. Take a piece of muslin free from knots and rough places and cut it one inch larger than the strainer, then place the muslin on the bevel side of the strainer and tack it fast to the edge of the strainer, using six-ounce Swedes upholsterers' tacks. Put one tack in the middle of the one side, one tack directly opposite in the other side, stretching the muslin as firmly as possible; then one tack in the middle of the top and one directly opposite in the bottom, stretching as before. Then stand the strainer on the floor with the back toward you and put in the fifth tack two inches to the right of the fourth, stretching the muslin with the fingers toward the right-hand corner, and then finish tacking this side to the corner. Then turn the strainer on the side edge and tack from the center tack to the right-hand corner as before, and the other side and the bottom. You now have half of the muslin tacked, and the part that is opposite to that which is tacked must be stretched with the pliers and tacked, working from the middle to the corners. Take a piece of muslin two inches larger than the paper and wet it in water and lay it on a table or mounting board, brushing out all the wrinkles with the brush; then lay the

paper or print face down on this cloth and brush it with water until the wrinkles are out and it lies flat and smooth. If there are several pieces of paper to mount, place the larger ones down first and brush each piece down smooth before placing one on top of it. Then allow the paper to soak for fifteen minutes. Then make some starch paste, which should be as thin as possible and still preserve all of its adhesive qualities, and also be free from lumps. If necessary, it can be strained through a piece of cheese-cloth. Remove the surplus water from the paper and the edge of the muslin with a squeezer or a dry piece of cloth, apply the paste to the paper, brushing it thoroughly in different directions until it has received an even coat of paste, then place one of the backboards on the table and lay the strainer on it face up and paste the muslin, and be sure to have the paste come out to the

it to soak a few minutes. Then turn the strainer over, carefully remove the paper, lay it on a wet cloth, and mount it as before. In case the paper refuses to come off, fill the back a second time with water and allow it to soak again. Occasionally it happens that after the paper has dried lumps in the starch cause raised places on the surface of the paper. These can be removed by turning the strainer over and wetting these places on the cloth and then scraping them on the cloth with a knife till the surplus paste works out through the cloth.

Mounting Bromide Enlargements.—Bromide paper, on account of the gelatin surface, needs a different method of mounting from that used for other paper; for if the surface when wet should be touched with a dry substance, it would adhere to it and injure the gelatin. Procure a tray large enough for the prints. You



USE OF LANTERN.

edges of the strainer. Now pick up the paper and place it on the strainer, and then lift up each corner separately and rub it down with a clean cloth from the center to the corner. Then trim off the edges with a sharp knife.

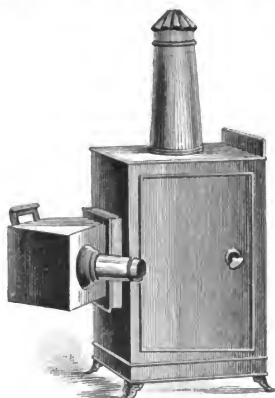
Set the mounted strainer away to dry, but not near the fire nor in a place that is very cold. Sometimes the paper will not stick in places along the edges, and by examining it a few times before it has dried this can be remedied by rubbing the paper in contact with the muslin. Very often these places are along the bottom of the strainer and are the result of the water settling to the bottom. This can be overcome by changing the position of the strainer two or three times before it has dried. Sometimes a piece of paper will refuse to stick in some places, and it will be necessary to remount it. This can be done by turning the strainer face down and filling the back of it with warm water and allowing

can buy a hard-rubber one, or make one of wood. Have a wooden box, 27 inches by 32 inches by 4 inches deep, of half-inch grooved material, and line it with black oil-cloth, tacking it along the top edges. Do not cut the corners of the oil-cloth, but fold them in. Fill the tray half full of water, and lay the enlargement, face side up, in the water, and let it remain fifteen minutes. Have a wet cloth ready to lay it on, as in mounting for other paper, and be very sure that there are no dry places in the cloth; then mount as for the other kinds of paper, only in rubbing the paper down to the cloth use the fingers, first wetting them in water. Bromide enlargements can be remounted if necessary, as other paper, but care must be used not to allow anything that is dry to touch the paper when it is wet.

Magic-Lantern Outline.—One of the best methods for producing an enlarged outline from a small photograph is with a magic lantern and

an attachment that can be fastened to it whereby the light is thrown on the photograph and then reflected through the lenses, on the crayon strainer. While the image thus reflected on the screen or crayon strainer does not equal in brilliance that of a transparent glass magic-lantern view, yet it is brilliant enough for making crayon outlines and for many other sources of enjoyment or instruction, and it obviates the necessity of having a glass transparency.

Have a table 6 feet long, 16 inches wide, and 30 inches high. Fasten a stick 6 feet high, 1 inch wide, and $\frac{1}{4}$ inch thick perpendicularly 4 inches from the end of the table, one end resting on the floor. This stick will reach 42 inches above the table, allowing sufficient height for a 25 by 30 strainer. Stand the strainer with the back toward the magic lantern, on the bottom edge, on the table, against the stick, and at right angles to the side of the table, and nail it fast to the stick with two brads. Draw a vertical charcoal mark on the back of the strainer through the center, and a mark the proper distance from the top of the strainer horizontally where the top of the head



MAGIC LANTERN.

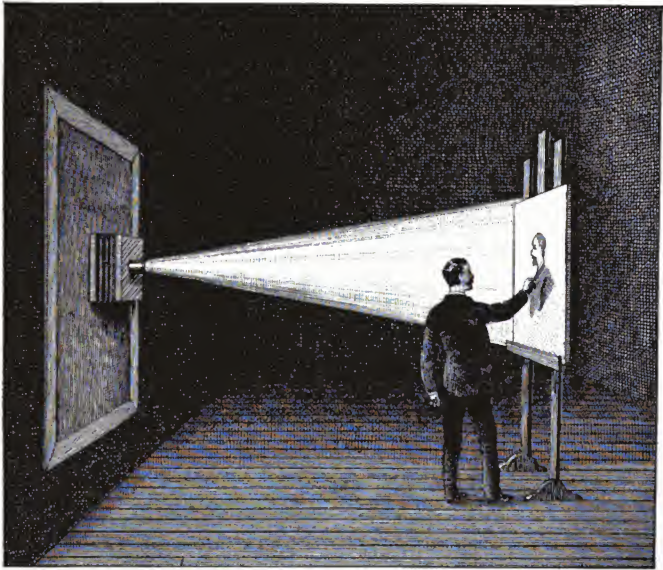
is to come. The reason for placing the strainer with the back toward the lantern is that the image must show through the strainer, as the reflection causes the image to be reversed when illuminated. Arrange the lantern according to the directions furnished with it, and set it the proper distance from the strainer to produce the size of head desired, and parallel with the strainer; then focus the features, using the charcoal marks as a guide for the proper place to make the head, the vertical line passing through the center of the face. Then take a seat at the end of the table and in front of the strainer, and make a charcoal outline, and then fasten the charcoal with the crayon.

Transfer Outline.—Have a photographic enlargement made from the small picture; it will

only be necessary to have the head—that is, an 11 by 14 enlargement will be large enough for a 25 by 30 crayon portrait, and this 11 by 14 enlargement will be good to work from in finishing the crayon. Transfer paper is transparent, and is made of fine tissue paper oiled with clarified linseed oil and then hung up and dried. Lay a piece of the transfer paper on the enlarged photograph, and go over the outline and features with a soft lead pencil, and then turn the paper and rub all over the back of it with charcoal; then lay it, charcoal side down, on the crayon strainer, and with a sharp pencil go over the lines first made; remove the paper, and you have a charcoal outline. Fasten it with the crayon.

Positive or Negative Outline.—Make a positive or negative from the photograph to be enlarged. Have a room that is entirely dark excepting one window. Have a dark inside shutter for this window, with an opening in the center large enough for the negative or positive you intend to use. On each side of this opening and at the bottom have cleats to slide the negative in. Then remove the ground glass from your camera box and fasten the box against the opening in the shutter so that the lenses in the camera come opposite the negative. Fasten it with four hooks and eyes, or have cleats on the shutter. Have the box come close against the shutter, so that the light will be entirely excluded. Place the easel, with the crayon strainer on, at the proper distance from the window, to give the required size of the enlargement, and focus the image on the crayon strainer. The crayon strainer must stand at the same angle as the shutter, or the enlargement will be distorted. That is, if the shutter is perpendicular, then the strainer must be perpendicular. Now, go over the outlines and features, also the principal shadows, with the charcoal. Then open the shutter and examine the outline, for, sometimes in making an outline in the dark, some of the lines are overlooked. If that is the case, close the shutter and put them in. Then fasten the charcoal with the crayon.

The Metroscope.—The metroscope comprises a series of squares engraved upon the finest plate glass by machinery. The two plates of glass (of which one form of the instrument consists) are ruled for convenience, with squares differing in size. These are framed and held together by thumb-screws, allowing sufficient space between them for a picture the size of a cabinet photograph, which brings the lines in perfect contact with all parts of the photograph, giving the appearance of lines drawn upon the photograph. One feature of this instrument, which renders the square system very practical, consists of the division and subdivision of the squares by dotted lines and dash lines. The eye naturally divides a line or space into halves and quarters, and for this reason the dash lines have been designated for quartering the main lines, and the dotted lines for quartering the squares thus formed. This gives sixteen times as many squares for use as are drawn upon the photograph. A method like that just described, but without the aid of an instrument, is to fasten a photograph or picture to be enlarged on a board, and along each side and at the top and bottom of the photograph divide the space into $\frac{1}{4}$ -inch spaces; then drive pins in each of these division marks, and run white threads



DARK CHAMBER.

across vertically and horizontally from each pin to the one opposite. If the enlargement is to be six times, divide the sides and top and bottom of the strainer into 14-inch spaces, and drive pins into these division-marks, and run the thread across vertically and horizontally from each pin to the one opposite, and then draw in the enlargement. Of course, this method will require some knowledge of drawing.

The Pantograph.—This instrument for enlarging or reducing a picture was invented about the year 1603. It consists of four metallic or wooden bars or rules, each one being perforated with a series of holes, by which they are connected by means of a thumb-screw. It is provided with a tracing and a marking point, and a screw or point which is forced into the drawing-board to hold the instrument in position. They are usually numbered from one to twenty on the four bars indicated. To use the instrument, select the number desired and secure the pantograph to the drawing-board at the left-hand side. Place a piece of manilla paper at the other end of the board and secure it with thumb-tacks. Place the photograph under the indicating point in the center and secure it to the board. The indicating point should always touch the photograph. If it does not, place a little weight on the instrument over the point. Now, guide the instrument by taking hold of the marking point, and watch the tracing point. In this manner go

over the entire photograph, putting in all the outlines and details necessary, after which transfer the outline from the manilla paper to the crayon strainer, with the transfer paper.

Backgrounds.—Begin the crayon portrait by putting in the background, using one of the four different methods given. No rule can be given for the lights and shadows, as every portrait will need a characteristic background adapted to the subject. There should always be a nice contrast of light and shade, having the light come against the light side of the face and dark against the light side of the face, and generally a cast shadow, and this shadow must not be placed too near the head, as simplicity should be one of the principles of the background, and this can only be accomplished by breadth of light and shade. Hence in placing the lights and shadows in the background there should be a broad effect. When the strainer is laid on the table and rubbed with the cotton, first lay a piece of manilla paper on the table, and after rubbing the cotton in the crayon sauce rub it on the manilla paper to remove any foreign substance before rubbing it on the crayon paper, and always take a good handful of cotton to rub in the background with. The proper position to take in finishing a background is to place the strainer on the easel, with the center of the picture on a level with the eyes when standing, and then step back about six feet and decide where you intend to place the lights,

and after putting in each light or cloud effect, walk back and see if it is satisfactory.

The first method of producing a background is called the stump effect, and is produced by first rubbing the chamois block in the box of crayon sauce. Holding this in the left hand, with the large gray paper stump put in the darkest places and the cast shadow, using the broad end of the stump, and in a parallel direction with the face of the strainer to avoid making any dark spots with the point of the stump. Produce broad lines, and have them cross at the same angles given for the line effect, and finish with the large eraser cut so as to produce a line about the same size that the stump gives.

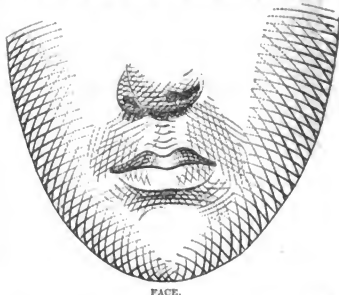
The second method is to lay the strainer on the table and with the cotton and crayon sauce rub in the background, using care not to rub harder in some places than in others, thus causing dark spots, and rub in close to the face and out toward the edge of the strainer six or eight inches from the face, in the form of a circle, the upper line of the arc coming just above the head, and then place the strainer on the easel and put in the cloud effect.

The third method is to lay the strainer on the table and with the cotton and crayon sauce rub in the background, producing the desired effect, then sprinkle some of the pumice stone over the background, and go over this with the fingers, rubbing in a circular movement, using the fingers flat from the second joint to the end. Then lift up the strainer and put it on the edge and jar off all the pumice stone. Then lay it down and rub it off with a clean piece of cotton. Now rub the fingers in the crayon sauce and then on the manilla paper, then go over the background with the fingers thus charged with the crayon, the same as in rubbing the pumice stone, and it will produce a fine stipple effect. The pumice stone cuts through the sizing of the paper and produces an even-tooth or raised surface, which afterward takes the crayon from the fingers in a very beautiful manner, and it also causes the paper to assume a different color than when rubbed with the cotton and crayon sauce, as that makes the paper look dirty, whereas this method produces a clear, transparent effect. If the desired result is not obtained the crayon can be removed by going over the surface with the pumice stone and a second application of the crayon can be made. Then remove the strainer to the easel and finish.

The fourth method is to make the background similar to the second method, only not quite as dark. Then make the three sets of lines. Do not carry them out as far as the background should be when finished. Make them one quarter of an inch apart in a life-size portrait and a little closer in smaller ones. As a rule, the lines in the background should be a little farther apart than in the face. These lines need not be horizontal with oblique ones crossing them; they can be curved ones, but they should be an equal distance apart and produce the diamond effect. After the lines are in rub the background with a clean piece of cotton, sufficient to rub out the lines enough to cause that degree of indistinctness required. Then place the strainer on the easel and finish, and if any of the lines are too decided subdue them with the nigrovine eraser.

Filling in Free-hand Outline.—The principal difference in the appearance of free-hand crayons and those that are made over a photographic enlargement is that the shadows in the free-hand crayons are lighter and more transparent, and a truer likeness can be made by the former method in the hands of a competent artist, as the photograph paper that the enlargement is made upon, in the manipulations that it undergoes before the enlargement is completed, causes the paper to stretch to such an extent as to cause a distortion of the image. A piece of photographic paper, 25 inches by 30 inches, will in its manipulations stretch one inch in the length and one and one half inch in the width.

The directions for working over a platinum enlargement, silver enlargement, and free-hand crayons are the same after the outline of the free-hand crayons has been filled in. Suppose that it is desired to put in a background after the third method. Having made the outline, lay the strainer on the table and put in the background. Then place the strainer on the easel and finish the background, after which take the chamois block in the left hand and a tortilian stump in the other hand, and put in the shadows, beginning on the hair, putting in



the broad shadows, working the stump in the same direction that the lines of the hair run, and endeavor to give the soft effect that hair should have. The eyebrows should then be made; then the eyes, beginning with the upper lids, putting in the lines between the eyes and the lids, and also the second line forming the lids, then the under lines of the lower lids. Next form the pupil, placing it in the center of the iris, making it very dark; then the iris, noticing that the upper lids cast shadows on the iris. Then the shading of the nose and nostrils, and the shadow under the nose. The mouth is the next important feature, and herein lies nearly the whole expression of the lower part of the face. Then the ears, and then model the face, making all the shadows broad and decided, leaving the details for the finishing touches. Then put in the clothes with the large gray paper stump, sweeping it gently across the lights in different directions, forming the lapels and arms, and finish according to directions for finishing silver or platinum enlargements.

Line Effects.—The lines are drawn to cross one another so as to leave diamond shaped spaces. One of the important things in this style of finishing is the line of direction, by which is meant the lines or grains that represent the object to be drawn. We say that wood is cross-grained, meaning that the grains or fibers of the wood run crosswise. If we were to represent the grain of a straight board in crayon drawing, we would draw straight lines running lengthwise of the board, unless it should have some cross-grained places in it. If we should take the same board and bend it in the form of a circle, to represent the grain of the board in that position, we would draw curved lines to correspond with the grain in that position. The idea to be impressed is that when we represent an object in crayon and that object is flat, we draw straight lines to represent its surface, and when an object is round or partly so, we draw curved lines to represent its surface, conforming the lines to the surface of the object. Light and shade in nature have each their different qualities. Light expresses form, while shade obscures it; consequently, in the lighter places of an object we see its grain or texture, and this grain will gradually become obscure as it enters the shadows, until it is lost in the darkest. Hence, in the making of crayon portraits with lines, the grain effect will show more decided in the lights and half-shadows.

The Face.—For a line effect on a silver or platinum enlargement begin on the hair, using the Mines Noire's crayons No. 2, and put in the shadows and half-shadows. Do not work over the lights. Then with the Mines Noire's crayon No. 1 put in the face, strengthening all the shadows, and define the eyebrows, eyes, nose, and mouth, the shadows under and around the chin, and the ears. Then put in the line effect as shown in illustration No. 2. This shows the lines before they are rubbed. Observe that there are three sets of lines in the background, and two sets in the face and clothes. The line effect in the face is the beauty of this method; for if they are properly drawn it will represent and give the effect of the grain of the flesh. These lines are drawn in the form of elongated diamonds, yet when finished they must have the effect of broken diamonds. If you examine the back of your hand, you will see more clearly what is meant by the term broken diamonds. Begin on the forehead and put in one set of lines running straight across and curving down as the forehead rounds off toward the hair. Then one more set, which will produce the diamond form, and then continue all over the face, making these two sets of lines. These lines should indicate the grain of flesh by carefully keeping the line of direction. The lines are dark in the shadows, and lighter as they approach the lights, and on the highest lights of the forehead, nose, and chin, there should not be any lines. After the lines are drawn, with a piece of cotton rub the hair and face, rubbing in the line of direction. The crayon will now be about three shades darker in the lights than when finished, and not dark enough in the shadows. Proceed to finish, using the 0 crayon wherever it needs to be darker, and the nigrovine eraser where it should be made lighter, using the eraser on the same prin-

ciple as you would a pencil, only making white lines instead of black ones, and break up the regularity of the diamonds. The eraser is kept clean



PROFILE.

by rubbing it on the emery paper. Take a piece three inches square and place it in the left hand between the index and second fingers, holding the fingers half an inch apart, and bend the paper in this opening so as to make a crease to rub the eraser in. It will be necessary to sharpen the eraser occasionally with the knife.

The Dress.—To represent the effect of the lines in the clothes, every fold, sleeve, and lapel should have lines to distinguish them from the adjoining surface, and these lines will disappear in the wrinkles or shadows that define the fold, and in the next fold the lines will have a different direction. With the large gray paper stump and crayon sauce, put in the shadows, and then with the Mines Noire's crayon No. 2, draw the lines, and with a piece of cotton and crayon sauce rub over the clothes, and finish with the

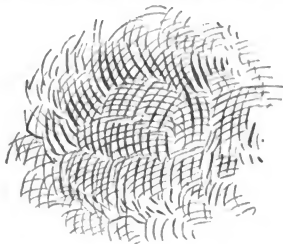


CLOTHES.

nigrovine eraser No. 2, conte crayon in the wood, and the square black conte crayon. Also use the chamois skin for broad lights, and the velour crayon for deepest black. The portrait is now in proper condition to put on the finishing

touches, which do with the 0 crayon and nigro-vine erasers, softening the lights and shadows into each other until the entire portrait is subdued and there are no decided lines of light and shade, carefully preserving the likeness.

The Stipple Effect.—On a silver or platinum enlargement put in a background after the second method, and then treat the whole surface of the paper with pumice stone, rubbing it with the fingers. Then put in the shadows with a tortilion stump and crayon sauce. Take out the lights with the nigrovine eraser, and finish with the 0 crayon. Instead of a diamond effect, as



with the lines, a stipple effect must be produced—that is, the effect of black and white spots, the paper producing the white spots and the crayon the black ones. This is done by working over the picture with short curved lines in different directions, like the illustration, and then rubbing them with the end of the fingers (do not use the cotton). Finish by cutting up the light spots with the crayon pencil, and the dark spots with the erasers, producing an even effect of small black and white spots over the picture.

Bromide Paper.—The Steinbach crayon paper, used for making free-hand crayon drawings, has received a coat of sizing. This surface is not hard enough to necessitate any treatment before applying the crayon, unless we desire to break up the surface with the pumice stone. Platinum and silver enlargements undergo in their photographic manipulations a change whereby the paper is made soft and spongy; therefore they are easier to work on than the crayon or bromide paper, as they will take the crayon from the cotton and stump more readily than the former, for the crayon enters into the pulp of the paper on account of this softness.

In the bromide enlargement, while the paper has to undergo all the manipulations of development and fixing and washing that the silver or platinum enlargement does, yet the gelatin has not been removed, and when dry remains as a strong sizing to the surface of the paper. The print and paper are different from the silver or platinum print or crayon paper, but there is not as much difference in the print as there is in the surface of the paper. There should be this difference. The silver or platinum enlargement should only be printed strong enough to give the form and the larger details in the negative. The bromide enlargement should be as perfect a photograph in its strength of light and shade

and detail as it is possible to make from the negative. From the fact that, on account of the hardness of the surface, not as much crayon can be put on the bromide paper as on the other kinds of paper, and therefore they can not be strengthened in the same degree in the shadows as the other without spoiling the transparent effect in the shadows, the best bromide crayons are those whereby the least amount of crayon is used to produce the desired effect.

Finishing Bromide Enlargements.—Take the mounted enlargement and look at it sideways, and see if there is any starch on the surface of the paper. If there is, remove it with a sponge and clean water, and then dry it. Then lay the enlargement on the table, take a handful of cotton and rub it in the crayon sauce, then on the manilla paper, and then rub over the entire surface of the paper with the cotton in a circular motion. Then sprinkle pumice stone over the enlargement, and rub it with the flat ends of the fingers. This treatment cuts through the gelatin surface, and produces an even-grained surface. Then rest the strainer on the edge and jar off the pumice stone. Lay the strainer down and rub it with a clean piece of cotton. Rub the flat ends of the fingers in the crayon sauce and then on the manilla paper, and then go over the entire surface of the enlargement with the fingers thus charged with the crayon, and it will produce a beautiful stipple effect. If the shadows are not dark enough, use a little more crayon, and put the cast shadow in the background. Before proceeding further it is well to note that in the bromide paper there is one more surface than in the other paper—that is, the gelatin surface—and that the photographic image is on this gelatin surface and not on the paper, and under this image we have the pure white paper. If it should be necessary to make a shadow lighter, it can be done by removing this surface with an ink-eraser knife; and you will also observe that on account of the hardness of this gelatin surface the crayon will come off very easily, and on this account will need a different method in finishing, and hence you use the fingers to apply the crayon sauce.

Place the enlargement on the easel, and put in the cloud effects with the large eraser. Then lay it on the table, and clean off the edges about 4 inches all around with the cotton and pumice stone. Then return it to the easel, and with the large eraser clean off the lights in the face, hair, and dress, and then with a clean piece of cotton blend the lights and shadows together. Then with the stump and crayon sauce and fingers strengthen the shadows and finish with the nigrovine eraser and 0 conte crayon, producing an even stipple effect over the entire picture, and give the proper effect of light and shade. You will have a good guide for the stipple effect in the background, as you will notice that this stipple effect is perfect there in some places, especially in the lighter ones. The finishing with the 0 crayon is the nicest part of this method, and must be done by keeping in mind the fact that you are putting in the stipple effect, and that alone. That is, the crayon is supposed to be right in light and shade, and it should not be necessary at this stage of finishing to strengthen the picture in the shadows with the 0

crayon. You are to mend or patch the crayon at this stage, cut it up in the stipple effect—that is, there will be patches of light and dark places that must be joined together, and there will be small white and black places that will need to be made the same as the white and black spots that produce the stipple effect. Finish the clothes by using the large stump in the darker places and rubbing with the fingers, and with the eraser and cotton in the lights. See "Crayon Portraits, a Complete Treatise for making Crayon Portraits on Crayon Paper, Platinum Enlargement, Silver Enlargement, and Bromide Enlargement," by Jerome A. Barhydt.

PORTUGAL, a constitutional monarchy in southwestern Europe. The reigning King, Carlos I, born Sept. 28, 1863, succeeded to the throne Oct. 19, 1889. The heir-apparent, Luis Philip, Duke of Braganza, born March 21, 1887, is the elder of two sons of the King and his wife, Marie Amélie, a daughter of the Comte de Paris. He was formally recognized by the Cortes as successor to the crown on June 14, 1890.

In consequence of the British *ultimatum* (see EAST AFRICA) the ministry of the Progressist party that had been in office since Feb. 20, 1886, resigned, and a new one was formed on Jan. 14, 1890, of which the following were the members: President of the Council and Minister of the Interior, Serpa Pimentel; Minister of Justice, Lopo Vaz; Minister of Public Works, Frederigo Aouca; Minister of Finance, Franco Castello Branco; Minister of Marine and the Colonies, Arroyo; Minister of War, Gen. Vasco Guedes; Minister of Foreign Affairs, Hintze Ribeiro.

Area and Population.—The area of the kingdom is 34,038 square miles, and the population is about 5,180,000. Lisbon, the capital, has 242,297 inhabitants. The number of marriages in 1886 was 33,727; of births, 155,815; of deaths, 99,389. The number of emigrants was 13,998, as against 15,004 in 1885, 17,518 in 1884, and 19,251 in 1883.

Finances.—The budget for 1890-'91 makes the total receipts 40,972,694 milreis, and the expenditures 45,467,797 milreis. The new consolidated debt on Dec. 31, 1889, amounted to 546,478,885 milreis, and the unfunded debt to 2,377,399 milreis. The amount of interest paid in 1889 was 17,730,807 milreis.

The Army and Navy.—Obligatory service was introduced by the law of Sept. 12, 1887, the period being three years with the colors or in the navy, five years in the first reserve, and four in the second. The peace effective of the army on Aug. 31, 1889, was 2,302 officers and 32,450 men, with 3,580 horses and 781 mules. When the new law comes into full operation there will be of drilled and instructed troops about 100,000 in active service and in the first reserve and 50,000 in the second reserve.

The navy in 1890 had 42 effective steamers with 141 guns and 12 sailing vessels with 39 guns.

Commerce.—The special imports of merchandise in 1889 were valued at 41,860,231 milreis; of precious metals, 10,492,855 milreis; the exports of merchandise, 23,443,510 milreis; of precious metals, 1,987,655 milreis. In 1888 30 per cent. of the imports came from Great Britain, 12 per cent. from France, 11 per cent. from Ger-

many, and over 10 per cent. from the United States, while of the exports 32 per cent. went to Great Britain, 21 per cent. to France, and 9 per cent. to Brazil. The chief exports in 1889 were wine of the value of 12,408,000 milreis; cork, 2,912,000 milreis; copper, 1,000,000 milreis; fish, 945,000 milreis; animals, 665,000 milreis; figs, 366,000 milreis; and salt, 285,000 milreis. In consequence of the popular indignation against England, the imports from that country were replaced in 1890 by the produce of other countries wherever it was possible. The figures for 1889 show an increase in the export of port wine, cork, minerals, and salt, and a decrease in Madeira and the ordinary red wine that was formerly in demand to supply the deficiency of the French vintages. The value of the wines exported to Great Britain in 1889 was 4,134,000 milreis; to France, 3,126,000 milreis; to Brazil, 3,109,000 milreis; to Germany, 854,000 milreis; to Portuguese colonies, 294,000 milreis.

The number of steam vessels entered at the ports of the kingdom in 1889 was 4,886, of 5,298,000 tons, the number of sailing vessels was 7,155, of 697,000 tons. The merchant marine in 1890 numbered 57 steamers, of 86,439 metric tons, and 390 sail vessels, of 97,352 tons.

Communications.—The post-office in 1888 carried in the internal service 18,525,000 letters, 3,294,000 postal cards, 16,144,000 printed inclosures, and 269,000 money letters, and in the international service, 4,315,000 letters, 126,000 postal cards, 3,135,000 printed inclosures, and 33,000 money letters.

There were 2,060 kilometres of completed railroads on Jan. 1, 1890, and 411 kilometres in process of construction.

Colonial Possessions.—The Portuguese colonies in Asia, comprising Goa, Damao, and Din in India, Timor and other islands in the Indian archipelago, and Macao in the Sea of China, have a total area of 7,923 square miles and 849,600 inhabitants. The budget for Portuguese India shows for 1890-'91 a surplus of 166,247 milreis, the receipts being reckoned at 925,817, and the expenses at 759,570 milreis. For Macao and Timor the estimated receipts are 488,845 and expenses 423,496 milreis, leaving a surplus of 65,349 milreis. The treaty by which China definitely ceded Macao to Portugal and formally relinquished all claims of sovereignty was ratified at Tientsin on March 28, 1890. Revolutionary disturbances broke out at Goa during the elections of 1890.

The area of the Portuguese possessions in Africa, including the islands of Madeira, Sao Thome, and Principe, and the Cape Verd Islands was 612,217 square miles. In 1890 the regions conceded to be Portuguese by Great Britain in the Anglo-Portuguese Convention that the Cortes refused to ratify was 774,993, the additions consisting of 160,000 square miles of *Winteland* between Angola and the upper reaches of the Zambezi and the little district of Cabinda. As soon as the treaty was signed the British proceeded to avail themselves of the clause throwing open the navigation of the Zambezi. The "Humber" and the "Buccaneer," carrying the parts of two light stern-wheel gunboats especially built for the Zambezi, drawing only eighteen inches of water, with men and stores for the boats when put to-

gether on the Zambesi, were escorted by Zanzibar by the war steamer "Redbreast," in the beginning of September to the Chinese month. The "Redbreast," after making a survey to ascertain if the vessels could make the passage, took them up and the light gunboats, the "Mosquito" and the "Herald," were put together and launched on the Zambesi despite the interdiction of the Portuguese naval officers and the protests of the Governor of Quillimane, who quoted the law to the effect that no foreign vessels have the right to navigate the Zambesi. The Portuguese gunboats made ready to fight, but finally were ordered by the Governor to make no resistance, as the opposing force was too strong.

In West Africa the chiefs of the Bihé and Bailundo districts rose in rebellion against Portuguese authority in the spring of 1890. Silva Porto, the captain-general of Bihé, on finding himself unable to cope with the insurrection, committed suicide. A force had been sent under Lient, Conceiro, an officer of artillery, to the relief of the captain-general, but when it arrived at Bihé it was obliged to beat a retreat. Other troops were dispatched with artillery from the Portuguese stations, and as the result of operations that lasted till late autumn the insubordinate chiefs were reduced to subjection. A railroad from Mossamedes to Bihé has been surveyed and the concession given to a company.

Change of the Ministry.—When Lord Salisbury sent his *ultimatum*, on Jan. 11, 1890, demanding the withdrawal of all Portuguese, military and civilians, from territories in Africa declared to be under British protection or within the sphere of British influence, the Council of State, to which must be submitted, according to the Constitution, questions of peace or war, was called together under the presidency of the King. British fleets threatened to seize St. Vincent, in the Atlantic, and Lourenço Marques and Quillimane, the keys to the Portuguese possessions in southeast Africa, and the Council therefore yielded to superior force. Barros Gomes, the Minister of Foreign Affairs, after signifying the acceptance of the British demands, resigned, and with him the other members of the Cabinet. The exasperation of the people had risen to such a pitch that Englishmen were mobbed whenever they appeared in public, and the escentheon on the British consulate at Lisbon was torn down. The new ministry chosen from the Liberal-Conservative or Regenerador party apologized for the insult, and took measures to preserve order in Oporto and Lisbon. A serious riot occurred at Lisbon on Feb. 11, and the students continued to manifest a turbulent spirit, but the Government kept the military under arms, arrested all who took part in riotous proceedings, forbade the demonstrations planned by the Republicans, and by these precautions confined the anti-English manifestations to the collection of a national defense fund, the ostentations severing of relations with the English by nearly every man of prominence in any party, and a general boycotting of British goods.

The result of the general elections, which took place on March 30, was to give the Government a large majority in the Chamber of Deputies, although the ministers were not in full possession of all the means of pressure commonly used

to secure a victory for the party in power, and, moreover, had to face an electoral alliance between the Progressists and the Republicans. On April 7 the Marquis Julio de Vilhena became Minister of Marine and the Colonies, a post that he had held in 1881, while Senhor Arroyo was transferred to a newly created Ministry of Public Instruction and Arts. Decrees were issued curtailing the right of public meeting and association and the liberty of the press, and forbidding theatrical representations satirizing the monarchy or its representatives. On June 7 a vote of indemnity was passed relieving the Cabinet of all responsibility for its dictatorial measures. The duty on manufactured tobacco was increased 1,000 reis on every kilogramme. A bill for a 6 per cent. increase of taxation was approved by the Chamber of Peers on July 25.

Fall of the Cabinet.—Serpa Pimentel and Hintze Ribeiro, who took office to carry out the evacuation of the Shire territories and to take the negotiations with Great Britain, which the people thought had been mismanaged by Barros Gomes, had pronounced in favor of arbitration of the dispute. This Lord Salisbury persistently refused. Before the Cortes met again on Sept. 15 Hintze Ribeiro was ready with the best treaty that he could make, which conceded all the main points at issue to Great Britain, and was therefore condemned by public opinion in advance. The modifications that he had been able to obtain from Lord Salisbury made no change in this judgment. The revolutionary parties—the Republicans, who had grown active and strong since the Brazilian revolution, the agitators for Iberian union, and the Socialists—made the most of the situation for the purpose of rousing a spirit of dissatisfaction with the dynasty and the existing order. A great mass meeting at Oporto, presided over by Alvaro de Castellões, the engineer whom Major Serpa Pinto escorted on the railroad survey that precipitated the conflict with England, and a declaration of protest signed at Lisbon by the Duke of Palmella, Count San Januario, and the other great nobles and the men of distinction in every profession gave evidence of the universal feeling against the treaty. On the day that the Cortes assembled crowds met in the streets to discuss the question of the day and manifest their feelings. The police and municipal guards broke up these impromptu gatherings, but some artillery soldiers who formed one of the groups turned on the police and drove them away. Re-enforcements were brought up, and the people, taking sides with the soldiers, mobbed and stoned the police, to show their detestation of the employment of the police force to check patriotic and political demonstrations and discussions. Lisbon was declared in a state of siege. When the treaty was presented to the Chamber the Progressists raised a violent uproar. The committee to which the treaty was referred was against it, and although the Regenerador politicians and their press organs defended the arrangement, Senhor Ribeiro did not wait for its inevitable rejection, but on Sept. 16 proffered his resignation to the King, and on the following day Serpa Pimentel handed in the collective resignation to the Cabinet. Petitions for the rejection of the treaty were sent to the Cortes from all parts of the country.

Fresh disturbances broke out in the capital. Martens Ferrao, who attempted to form a ministry, gave up the task, which, on Oct. 5, Gen. João Chrysostomo, a Moderate Progressist, was requested by the King to undertake. The crisis was complicated by the action of the departing ministers in appointing about 2,500 local judges and other officials, which members of other parties and groups desired to see annulled, and in intrusting Count Burnay, a great capitalist of Belgian origin, who was attached to the Regenerador party, with the leasing of the tobacco *régie* to a syndicate of French and German bankers without competition. The news of the invasion of Manica by the British removed the difficulties and enabled Gen. Chrysostomo, on Oct. 12, to complete a ministerial combination just as he was about to renounce the undertaking. The list was as follows: President of the Council and Minister of War, João Chrysostomo d'Abreu e Sousa; Minister of the Interior and Public Instruction, Antonio Candido Ribeiro da Costa; Minister of Justice, Sa Brandao; Minister of Finance, Mello Gouveia; Minister of Foreign Affairs, Barbosa Bocage; Minister of Marine, Antonio Ennes; Minister of Public Works, Thomas Ribeiro. After the Premier had explained his financial policy as one of the strictest economy, designed, if possible, to avert new taxation, and had announced the withdrawal of the English treaty from the consideration of the Cortes, the session was closed on Sept. 15. The treaty he was ready to recommend with suitable provisions safeguarding the interests and dignity of the country, but the forcible entry of British armed vessels into the Zambesi made it impossible to accept it even with modifications.

The Delagoa Bay Question.—In response to strong representations from the British and United States governments the Portuguese Cabinet, while denying that either of the governments had a right to interfere in regard to the treatment of a Portuguese company, finally agreed to submit the question of the amount of indemnity to be paid to the shareholders of the English company to arbitration, but not the right of the Government to rescind the contract. The American minister, who was the first to suggest arbitration, had named a large sum as the damages considered due to the widow of Col. McMurdo, who owned half the stock in the English company. The President of the Swiss Confederation, at the joint request of the three governments, in August appointed three Swiss jurists to fix the amount of the indemnity. The confiscated railroad was completed to the Transvaal frontier by the Portuguese Government and opened on April 28, 1890.

The Manica Question.—Notwithstanding the recognition in the Anglo-Portuguese Convention of the sovereignty of Portugal over the territories of the great chief Gungunhana, Mr. Colquhoun, in behalf of the British South Africa Company, negotiated with a vassal of Gungunhana, the chief of Mutassa, for a cession of his territory to the chartered company. He is the ruler of a part of the Manica country, which is the beginning of the inland plateau, a healthful wooded district rich in gold. The English claimed that he was the hereditary king of the whole of Manica and independent of Gungun-

hana. Although Baron de Rezende, the Portuguese representative, had come to the district more than a year before for the purpose of asserting the sovereignty of Portugal, the English emissary, on Sept. 14, signed a treaty with Mutassa taking Manica under the protectorate of Great Britain, which an expedition of the South Africa Company's forces was sent to make effective. The Portuguese officials who heard of these proceedings hastened to the spot and protested against the presence of the English in Manica, of which the Baron de Rezende, who was established at Massikesse with a force of black troops, was in practical possession, while engineers were at the time engaged in surveying the country. Col. Paiva d'Andrade had formally occupied the country in 1885, and in 1888 Gouveia, then the representative of Portuguese authority in Manica, with headquarters at Gorongosa, reduced Mutassa to subjection when he attempted to revolt. Gold prospectors entered Manica from the chartered company's stations in Mashonaland until there were several hundred in the district, and the influx increased when Major Johnston and Dr. Jameson made known the route to the sea by way of the Pongwe river. The Portuguese Government rendered this valueless, as well as the freedom of navigation that the British endeavored to enforce on the Zambesi, by suspending their transit tariff and putting a stop to all transit trade.

The *Modus Vivendi*.—A temporary arrangement was made in the beginning of November by which Great Britain agreed that neither the Government nor the South Africa Company should make treaties with chiefs in territories that were assigned to Portugal in the convention of Aug. 20, and also to annul treaties made with chiefs north of the Zambesi and elsewhere in territory recognized as Portuguese in the convention. The consideration obtained for this concession was that Portugal should open the Zambesi and the Shire to the free navigation of all nations, and grant facilities for the transit of passengers and freight and for postal service. The navigation of the rivers was to be placed under the principles and rules that were laid down in the Anglo-French Convention with reference to the Niger. The *modus vivendi* was signed on Nov. 14 for six months, both Governments reserving all rights and the liberty to propose and negotiate a definitive treaty. The route from Mashonaland is 250 miles to the navigable part of the Pongwe, whence there is open navigation for 150 miles to the sea, where there is a good harbor at Beira. A decree was published on Nov. 20 permitting the use of the route for persons and goods, on which latter a transit duty of 3 per cent. *ad valorem* was imposed.

While negotiations were proceeding the agents of the South Africa Company, desiring to include in its territories all the auriferous districts, and still more to obtain the route to the sea and the port of Beira, made a bold attempt to achieve a *fait accompli*, on the assumption that no Portuguese rights in South Africa were recognized by the British Government, that would leave the company in possession of the coveted territory down to the seaboard. Gungunhana was induced by bribes to promise to transfer his allegiance from Portugal to England, which would give the

company a claim over Manica and all Gazaland. In pursuing their plan they came in conflict, not with Portuguese interests, but with those of another English syndicate, the Ophir Company, that was formed in Barberton, Transvaal, and acquired the mining concessions previously granted to the Mozambique Company by the Portuguese Government. Baron de Rezende and Col. Paiva d'Andrade, who had been acting for the Mozambique Company, entered into the same relations with its successors, and with them were associated several English engineers. The short route to the sea that the agents of the chartered company pretended to have discovered had been in use by the rival companies for two years, and there was a steamer on the river and depots on the road to Manica. After the departure of Mr. Colquhoun Col. Paiva d'Andrade appeared, and on Nov. 8 Mutassa resumed his former relations with the Portuguese authorities and raised the Portuguese flag. Despite all the evidences of previous possession and of actual political occupation, the military forces of the British South Africa Company entered Manica, marched on Massikese, hauled down the Portuguese flag, and made prisoners of Baron Rezende, Col. Paiva d'Andrade, and Senhor Gouveia, who was the Capitão Mor or political and military chief of Manica under the Portuguese Government, after defeating the native miners who were assembled around their chief Mutassa. On receipt of the news of the tearing down of the Portuguese flag, which took place on Nov. 15, the students of Coimbra formed a battalion, volunteers from all ranks of society offered themselves, and money was contributed freely for the purpose of driving the English out of Manica.

PRESBYTERIANS. I. Presbyterian Church in the United States of America.—The following summary, from the tables appended to the "Journal" of the General Assembly of 1890, giving a comparative view of the statistics of 1874, 1889, and 1890, illustrates the growth of this Church during the past seventeen years.

ITEMS.	1874.	1889.	1890.
Synods.....	85	29	30
Presbyteries.....	174	211	213
Elders.....	...	23,259	23,809
Deacons.....	...	7,450	7,718
Churches.....	4,946	6,727	6,891
Added on examination.....	56,971	55,255	49,302
Communicants.....	485,634	753,749	775,963
Baptisms, adults.....	11,682	19,547	17,471
Baptisms, infants.....	18,538	24,566	25,187
Sunday-school members.....	516,971	843,188	867,463
<i>Contributions:</i>			
Home missions.....	\$416,067	\$885,518	\$889,556
Foreign missions.....	508,520	709,735	722,305
Education.....	243,952	155,843	470,356
Sunday-school work.....	61,605	101,473	108,645
Church erection.....	145,068	272,541	313,119
Relief fund.....	73,997	*272,024	126,762
Freedmen.....	47,419	119,082	198,788
Sustentation.....	63,115	46,093	55,055
General Assembly.....	26,425	69,634	72,352
Aid for colleges.....	...	169,553	248,107
Congregational.....	6,642,108	9,020,262	10,000,589
Miscellaneous.....	882,776	1,086,211	1,213,287
Total.....	\$9,120,792	\$12,962,829	\$14,368,131

* Includes part of Centenary fund. The receipts for the Centenary fund as a total amount to \$655,734.86.

The Board of Education reported to the General Assembly that it had received during the year from all sources \$84,963, and that it had 839 candidates under its care. While the contributions had increased, they had not increased as fast as the candidates offered, and the board had been compelled to reject worthy cases because the Church did not furnish it with means for their support.

The receipts of the Board of Home Missions had been \$831,170. The board had employed 1,701 missionaries and 361 missionary teachers, and returned 100,778 members, with 151,366 persons in congregations; 6,795 additions during the year on profession of faith; 3,844 baptisms of adults and 5,031 of infants; 2,516 Sunday-schools, of which 578 had been organized during the year, with, in all, 160,111 members; 118 schools, with 368 teachers and 7,478 pupils; 1,751 church edifices, valued at \$4,657,027; and 264 parsonages, of the estimated value of \$446,684. Thirty churches had become self-sustaining, 200 churches had been organized, and 151 church buildings had been erected.

The Board of Missions to the Freedmen had received \$176,325, or \$41,874 more than in the previous year. The Freedmen had given \$32,464 toward the support of their own churches and schools, besides \$7,745 paid for scholarships. The board had sustained during the year 316 missionaries, 252 of whom were colored, and of these 117 were educated colored preachers and 123 colored teachers; 254 Sunday-schools, with 17,502 pupils; 245 churches; 78 schools, with more than 10,000 pupils; a training college; and 4 seminaries. The whole number of communicants was 16,502. Nine churches had been organized, 1,290 communicants added on examination, and 439 adults and 857 infants baptized.

The Board of Foreign Missions had received \$794,066, and reported in its missions, among the American Indians, in South America, West Africa, India, Siam, China, Japan, Corea, Persia, and Syria, 199 American and 359 native missionaries, 1,320 American and native lay agents, 320 churches, 26,794 communicants, 2,753 added during the year, 583 schools, with 26,348 pupils, and 23,935 in Sunday-schools; the contributions of the native churches had been \$44,357.

The General Assembly met in Saratoga Springs, N. Y., May 15. The Rev. William E. Moore, D. D., was chosen moderator. The most important business of the meeting was that relating to propositions for revising the question of faith. The previous General Assembly had sent down to the presbyteries to be voted upon the questions: "Do you desire a revision of the Confession of Faith? If so, in what respect and to what extent?" The canvass of the votes, according to the report of the committee to which it was referred, showed that of the 213 presbyteries on the roll of the Assembly, 5 had failed to respond, 7 had declined to vote, 113 had answered the first question of the overture in the affirmative, and 68 in the negative. In the case of 2 presbyteries entered as answering in the negative, the vote was a tie; and one of the others had overruled for a single change. Of the presbyteries which had answered the second question in the negative, 20 had expressed a willingness to leave the question concerning the

nature and extent of revision to the General Assembly: 26 had expressed a desire for a new creed, either as a substitute for, or as supplementary to and explanatory of the existing doctrinal symbols; 15 had expressed a desire for a creed that will represent the consensus of doctrine among the Reformed Churches, which, however, shall not interfere with the use of the existing doctrinal standards. Of the 133 presbyteries that answered the first question in the affirmative, 160 had expressly said that they desired no revision that impaired the integrity of the system of doctrine contained in the Confession of Faith. Regarding the specifications of the Confession in respect to which a desire for change had been expressed, the committee reported:

One hundred and six presbyteries desire that Chapter III, on the decree of God, be amended; 2 presbyteries wish a change in the confessional statement concerning the cosmogony in Chapter IV; 2 wish changes in Chapter V, section 6; 10 in Chapter VI, sections 1-4, on the subject of the fall and total depravity; 1 the omission of the word "frequently" in Chapter VII; 6 in Chapter VIII, sections 5-8, the first being the substitute of "the divine" justice for "his Father's justice"; 2 in Chapter IX in respect to the doctrine of the sinner's inability; 102 in Chapter X, sections 3 and 4, referring respectively to "elect infants dying in infancy" and to "men not professing the Christian religion"; 1 in Chapter IX, section 4, which says that God did from all eternity decree to justify all the elect; 1 in Chapter XIV, section 1, by substituting the word sinners for the word "elect"; 3 in Chapter XV by reading "condemnation" for "damnation"; 10 in Chapter XVI, section 7, referring to work done by unregenerate men; one in Chapter XXI, sections 4 and 8, the first referring to prayer for those of whom "it may be known they have served the sin unto death," and the second to the words "what time" in the paragraph that concerns the observance of the Sabbath; 4 in Chapter XXII, sections 3 and 7, modifying the statement that it is sin to refuse an oath in anything that is good and just, and eliminating the reference to "popish monastical vows"; 2 in Chapter XXIV, section 6, on divorce; 63 in those portions of Chapters XXIV and XXV that refer to the Roman Catholic Church or the Pope; 1 in Chapter XXV, section 2, eliminating the words "out of which there is no ordinary possibility of salvation"; 1 in Chapter XXVIII, section 1, by substituting "recognition" for "admission," and making other verbal changes in the sentence demanded by this substitution; 2 in Chapter XXIX, section 1, by reading "to be observed in the Church until Christ come again," in place of "unto the end of the world"; 2 in Chapter XXIX, section 8, by reading "condemnation" for "damnation"; and 5 in Chapter XXX, section 2, in respect to the power of the keys.

In addition to these changes in the text of the Confession, for which a greater or less degree of desire has been expressed, your committee also find that 3 or 4 presbyteries desire to see in the Confession a more explicit statement of the freedom of the will; 71 presbyteries have said that they wish to see in our Confession of Faith a more explicit declaration of the love of God to the world than it now contains; 44 presbyteries desire the insertion in the Confession of a statement that will recognize the Church's duty to evangelize the world; and 4 presbyteries have asked for the insertion of a new chapter in the Confession on the person and work of the Holy Spirit. We may mention also that 1 presbytery has expressed the hope that if a committee should be appointed to consider the question concerning a revision of the Confession, every synod in the Church should be represented in the committee; and further that 1 presbytery has expressed the opinion that the question concerning the mode of amending the Confession of

Faith should be settled before any overture upon the subject is transmitted to the presbyteries.

Provision was made concerning methods of amendment in the following report proposing a new chapter in the Form of Government, which was adopted for transmission as an overture by the presbyteries:

CHAPTER XXIII.—OF AMENDMENTS.

SECTION 1. Amendments or alterations of the Form of Government, the Book of Discipline, and Directory for Worship may be proposed by the General Assembly to the presbyteries, but shall not be obligatory on the Church unless a majority of all the presbyteries approve thereof in writing.

SEC. 2. Amendment or alteration of the Confession of Faith and the Larger and Shorter Catechisms may be proposed to the presbyteries by the General Assembly, but shall not be obligatory on the Church unless they shall be approved in writing by two thirds of all the presbyteries and agreed to and enacted by the next ensuing General Assembly, and the written votes of the presbyteries shall be returned to that Assembly.

SEC. 3. Before any amendments or alterations of the Confession of Faith or the Larger and Shorter Catechisms proposed by the General Assembly shall be transmitted to the presbyteries, the General Assembly shall appoint to consider the subject a committee of ministers and ruling elders, in number not less than fifteen, of whom not more than two shall be from any one synod, and the committee shall report its recommendations to the General Assembly next ensuing for action.

SEC. 4. No alteration of the provisions contained in this chapter for amending or altering the Confession of Faith and the Larger and Shorter Catechisms or of this fourth section shall be made unless an overture from the General Assembly submitting the proposed alterations shall be transmitted to all the presbyteries, and be approved in writing by two thirds of their number, and be agreed to and enacted by the General Assembly.

SEC. 5. It shall be obligatory on the General Assembly to transmit to the presbyteries, for approval or disapproval, any overture respecting amendments or alterations provided for in this chapter, which shall be submitted to the same General Assembly by one third of all the presbyteries. In such cases the overture shall be formulated and transmitted by the General Assembly receiving the same to the presbyteries for their action, subject, as to all subsequent proceedings, to the provisions of the foregoing sections.

SEC. 6. Whenever it shall appear to the General Assembly that any proposed amendments or alterations of the Form of Government, Book of Discipline, and Directory of Worship shall have received a majority vote of all the presbyteries, the General Assembly shall declare such amendments or alterations to have been adopted, and the same shall immediately go into effect.

SEC. 7. Nothing in this chapter shall be so construed as to affect the rights of two thirds of the presbyteries to propose amendments or alterations of the Confession of Faith, and the Larger and Shorter Catechisms, or of the General Assembly to agree to and enact the same.

The Committee on Christian Unity reported concerning correspondence between itself and the commissions representing the Protestant Episcopal and the Congregational churches. Concerning the four propositions set forth by the Episcopalians, through their House of Bishops, in 1886, the first—concerning the acceptance of the Holy Scriptures of the Old and New Testaments as the revealed word of God—offered no difficulties; as to the second—concerning creeds—the Church would be willing to accept the Nicene Creed as a sufficient statement of the Chris-

tian faith, though not as embracing all that is important, but was not willing to give up its attachment to the Westminster Confession; the third proposition—relating to the two sacraments of Baptism and the Lord's Supper, to be administered with the unfeeling use of the Lord's words and the institution of the elements ordained by him—was acceptable; and the fourth, which concerns the historic episcopate, could also be accepted as understood by Presbyterians. The report deprecated the multiplication of churches in towns and villages by different ecclesiastical bodies beyond the ability of the people to sustain them. The General Assembly accepted and approved the views embodied in the report; invited a continuance of negotiations with the Protestant Episcopal Church and negotiations with other bodies; expressed its cordial assent to the principles of inter-denominational comity, with the wish that harmony and mutual consideration might prevail between its representatives and those of other Christian bodies wherever they might be brought in contact; and approved of the principle of federation as a step toward a closer union of Christian bodies. Presbyteries composed of colored members, whose applications to the boards had been hitherto required to be indorsed by Freedmen's Board, were authorized to make them directly to the boards, and on the same footing with other presbyteries. An overture was proposed for submission to the presbyteries, constituting the order of deaconesses. A paper was adopted defining what constitutes a properly organized Presbyterian church. It shall consist of a number of communicants, together with their offspring, associated on the principles of the Presbyterian Confession of Faith and Form of Government, who have chosen ruling elders and deacons under the direction of the presbytery, by which a moderator is appointed until the congregation shall call a pastor. In case the body has no suitable persons to serve as ruling elders and deacons, the church is reported as in an imperfect condition, and is subject to the government of the presbytery. Resolutions on the importance of the public schools and of moral training within them, embodied the declaration that as the Bible is the source of the highest moral training, its exclusion from the public schools was to be regarded as a menace to the national welfare.

II. Presbyterian Church in the United States (Southern).—The following is a summary of the statistics of this Church for 1890, in connection with which are given, for comparison, the summaries for 1889 and 1874, showing the growth of the Church in seventeen years:

ITEMS.	1874.	1889.	1890.
Synods.....	12	13	13
Presbyteries.....	64	68	71
Candidates.....	199	817	863
Ministers.....	972	1,145	1,179
Churches.....	1,764	2,321	2,400
Number of ruling elders.....	.....	7,254	7,330
Number of deacons.....	.....	5,215	5,611
Added on examination.....	7,129	9,501	11,400
Total communicants.....	105,356	161,742	168,791
Number of adults baptized.....	2,017	8,889	8,740
Number of infants baptized.....	4,249	4,371	5,311
Baptized non-communicants.....	.....	33,528	37,192
Teachers in S. S., etc.....	.....	18,436	13,618
Pupils in S. S., etc.....	60,293	108,805	111,274

CONTRIBUTIONS.	1874.	1889.	1890.
Sustentation.....	\$55,986	\$55,120	\$65,036
Evangelistic.....	.....	34,166	54,445
Invalid fund.....	9,918	12,117	13,904
Foreign missions.....	28,368	82,782	89,650
Education.....	51,360	54,508	88,991
Publication.....	15,808	8,843	9,016
Tuscaloosa Institute.....	.....	5,759	6,590
Church erection.....	.....	3,461	5,900
Presbyterial.....	.....	14,805	14,622
Pastors' salaries.....	484,164	665,724	689,636
Congregational.....	896,641	553,155	612,502
Miscellaneous.....	68,631	116,493	126,962
Total.....	\$1,111,461	\$1,616,126	\$1,727,268

The receipts of the Committee of Home Missions, including contributions for the Sustentation, Church Erection, Evangelistic, Invalid, and Colored Evangelistic funds, were \$76,243, or more than \$13,000 larger than those of the previous year. Aid had been given to more than 200 ministers laboring in weak churches; in the repair of 36 churches; to 143 infirm ministers, and widows and orphans of deceased ministers, and to two white and 21 colored ministers laboring among the colored people. Fifty-four evangelists had been employed.

Union Theological Seminary returned 25 students, with a considerable fund accumulated toward the endowment of a fifth professorship. Columbia Theological Seminary had 25 students, with invested funds to the amount of \$235,205, yielding an annual income of \$13,117. The Institute for the Training of Colored Ministers, at Tuscaloosa, Ala., had been attended by 29 students—Methodist, Presbyterian, and Baptist. The first colored minister to Africa from this Church, who has been sent to the Congo Free State, is a graduate from this institute.

The receipts of the Committee of Foreign Missions had been \$107,627, or \$11,572 more than those of any previous year. Fourteen new missionaries had been sent out. The reports from the mission fields—which are in China, Japan, Mexico, Brazil, Greece, and Italy—furnished the following numbers: Of American missionaries, 78; of native helpers, 50; of mission stations, 18, with 98 out-stations; of communicants, 2,072, of whom 360 had been added during the year; of pupils in Sunday-schools, 1,207; of pupils in day schools, 845; amount of contributions by native churches, \$4,317. The Indian mission, with 600 communicants in addition to those enumerated above, had been transferred to the Home Mission Committee. A mission had been undertaken in the Congo Free State, to which two missionaries had already sailed.

The General Assembly met at Asheville, N. C., May 15. The Rev. James Park, D. D., was chosen moderator. A revision of the Directory of Worship, which had been sent down to the presbyteries by the previous General Assembly was found to have been rejected by them, having been approved by only 23 out of the 71 presbyteries. This subject had already been before the Assembly for several years. The revision, with all reports and overtures upon it, were referred to an enlarged committee which was instructed to prepare and report a marriage and funeral service. An overture respecting voluntary societies sent down by the previous General Assembly had been answered by 68 presbyteries,

of which 39 presbyteries expressed themselves as opposed to all societies except local ones under the control of the sessions. An overture asking whether the law of the tithe is still binding on the conscience under the Christian dispensation was answered by 68 presbyteries, 51 of which expressed the opinion that it is not binding, while 10 thought it still binding either upon the church or the individual, or both. The facts were spread upon the minutes without further action. The permanent Committee on the Sabbath reported that though in some places there might be signs of improvement in the observance of the day, the indications on the whole were, that the general trend was in the direction of looser views and practices. Out of 41 presbyteries heard from less than one dozen had expressed the opinion that there was anything like manifest improvement, and nearly all of these confined the statement to church members. After mentioning the increase of Sunday trains, excursions, and newspapers as contributing to the decadence of the day, the report says that all this "would be no ground for discouragement were it not for the damaging report that comes from almost every quarter, that the public conveyances are still more or less patronized by church members on the Sabbath. Until professing Christians shall set an example in this respect it will be but vain for us to expect anything better from the outside world." The resolutions adopted protest "against all profane use of this sacred day in the following of any secular pursuits, or by any excursions merely for pleasure so called" and against ministers and officers of the Church using public conveyances for travel on the Lord's Day, or such use of other conveyances as will mar their usefulness as examples; and against members giving countenance or support to Sunday papers. A report was adopted denouncing the lottery as "an unmitigated evil and a vicious iniquity," and approving legal measures for suppressing it. A report on the evangelization of the colored people declared that "this Church has always acknowledged the obligation to preach the Gospel to the colored people. There are not wanting evidences of an increasing interest in the work. We believe that the time has come for marked enlargement of effort to give these people a pure Gospel and all the advantages of our system of government." The Assembly decided to put a white minister in the field to visit the churches and stimulate increased interest and liberality in the religious instruction of the colored people, and to organize colored Sunday-schools and churches wherever practicable. Assistance was promised to the colored presbytery in Texas and colored churches in South Carolina and elsewhere. Steps were taken to further the training of woman missionaries under appointment before leaving for foreign lands, especially in medicine.

III. United Presbyterian Church in North America.

— The statistical reports of this Church made to the General Assembly of 1890 give the following footings: Number of ministers, 774, of whom 526 are in pastoral charge; of licentiates, 58; of students, 71; of congregations, 904; of pastoral charges, 724; of mission stations, 151; of elders, 3,439; of communicants, 103,921; of additions by profession, 7,025; of

baptisms, 4,528 of infants and 2,056 of adults; total amount of contributions, \$1,134,223, being an average of \$12.34 per member; number of Sabbath-schools, 1,010, with 10,260 officers and teachers and 92,580 pupils; contributions of Sabbath-schools, \$67,555.

The treasurers of the several funds reported to the General Synod concerning their condition: Theological Seminary Endowment fund, \$43,975; Education fund (balance), \$621; Sustenance fund, \$10,205; Domestic Mission fund (receipts during the year), \$1,527; Sabbath-school Committee's receipts for missionary purposes, \$1,683; Foreign Mission fund, \$13,319 on hand. A bequest of \$1,000 had been received from the estate of Thomas Paley, of Philadelphia. The receipts of the Church Extension Society from ordinary sources had been \$37,504, of which \$23,413 were from direct contributions, and its total income was \$63,335. The payments had amounted to \$59,244. Appropriations had been made to 4 parsonages and 18 congregations of \$22,004. The receipts for foreign missions during the year had been \$100,539. Fourteen new missionaries had been sent out. Thirty-nine churches, with 2,971 communicants and 100 schools, were returned from the mission in Egypt, and 10 churches, with 6,597 communicants and 168 schools from the mission in India.

The thirty-second General Assembly met in Buffalo, N. Y., May 28. The Rev. Andrew Watson, D. D., of Egypt, was chosen moderator. A committee to whom the subject of demission of the ministry had been referred by the previous General Assembly reported to the effect that ordination is for life, but in certain cases it may become clear that the person is no longer qualified for the work. Presbyteries should then act with great prudence, and, when the facts indicate that the will of God is not for his continuance in the work, by proper means release him from the office. The subject was referred to a special committee, which in its report sustained the legality of the release of a minister from the office when he has, under what he believes to be the providence of God, ceased from ministerial work and engaged in secular pursuits. The oversight and care of the presbytery, it held, do not cease with the minister's ordination; the power to ordain on the evidence of God's will necessarily continues as a power to withdraw the ordination when it becomes clear that it is God's will that the man ordained shall not continue in the office. This may occur under the person's conscientious conviction of the fact, by his becoming entangled in secular pursuits, or it may be determined by the presbytery. The subject was referred with the committee's report to the next General Assembly. In view of the proposed union of the Presbyterian and Reformed Church missions in India into a single church, the Assembly determined to maintain the integrity of its own mission and of the doctrines of which it stands as a representative, and withheld approval from the basis of union. The General Assembly had some years ago withdrawn from the Presbyterian Alliance. Representatives of the Alliance were given a hearing to invite it to return, and a committee was appointed to consider the relations of this Church to the Alliance and report to the next General Assembly. The

Committee on Union with the Reformed Presbyterian Churches reported the result of the conference that had been held on the subject with the committees of those bodies.

A committee of five members was appointed to meet with committees of the two Reformed Presbyterian Churches or of either of them, for the purpose of forming a basis of union. An overture allowing the licensure of students of theology at the end of the second year's study in the Assembly, having been approved by the vote of the Church, was enacted into a permanent law; but it was made a part of the law that a third session shall be spent at the seminary after licensure. Unlicensed students were enjoined from accepting appointments to preach while in attendance at the seminary. Overtures prohibiting the licensure of students of theology who are addicted to the use of tobacco and overtures relating to the ordination of tobacco-using men as elders had been rejected by the vote of the Church. The presbyteries were, however, advised to take the use of tobacco into serious consideration in determining the fitness of candidates for the office of the ministry; and ruling elders to consider the influence of their example in the matter. Provision was made for determining the proper presbyterial connection of such congregations of freedmen as have been organized beyond the defined limits of existing presbyteries.

IV. Reformed Presbyterian Church (Synod).—This Church has, according to the statistical reports made to the Synod of 1890, 124 congregations, nearly 11,000 communicants, and 151 Sabbath-schools, with 12,000 pupils. The mission among the colored people of Alabama had been extended during the year, the number of home-mission stations had been increased, new teachers had been appointed to the mission among the Indians, a farmer had been stationed there, and a mission house had been built. Two congregations and a presbytery had been organized in the Syrian Mission.

The Synod met in the city of New York, June 4. The propositions for union with the General Synod were rejected. The subordinate courts were directed to see that the law of the Church in reference to voting for civil officers be enforced. An order was passed that hereafter discussions in the magazines of the Church leading to the expression of opinions that are contrary to the law and order of the Reformed Presbyterian body be not allowed. A resolution to rescind the rule forbidding the admission of ministers of other churches to Reformed Presbyterian pulpits was lost. A synodical communion was appointed to be held in 1891, at which the covenant sworn to in 1871 should be re-subscribed to. The Synod decided to establish missions in Africa and China as soon as possible. A fund of \$4,000 had already been obtained for the mission in China.

V. Reformed Presbyterian Church (General Synod).—The General Synod of the Reformed Presbyterian Church met in Pittsburg, Pa., May 21. The Rev. R. Blair was chosen moderator. The Committee on Union reported concerning a conference which had been held with a committee of the Synod of the Reformed Presbyterian Church, in January, 1890, submit-

ting the propositions which had been presented by the committees of the respective bodies. The proposition of the committee of the General Synod suggested that the whole Reformed Presbyterian Church place itself in the position defined in the declarations of 1832, leaving the question of application to different cases to be settled as the cases might come up. The position of the committee was approved, and a delegation was appointed to attend the meeting of the Synod in New York, with instructions to convey to that body the unwillingness of the General Synod to accept the paper presented by the Synod's committee, for the reasons that it was not in harmony with the terms of communion of either school; that in declaring the government of the State and nation under immoral law it was establishing a new standard of doctrine; that it was contrary to the decision of the Church prior to the division; and that the Reformed Presbyterian Church, as a whole, had never declared any position contrary to the Constitution of the United States. The report of the committee on the signs of the times recognized the existence of many reasons for official church thanksgiving, and recommended the observance of the national Thanksgiving Day as the Church Thanksgiving Day. Delegates were appointed to attend a convention in behalf of church union to be held in the fall. The subject of "the Token," coming over from the previous Synod on a question of allowing sessions to decide for their several congregations was indefinitely postponed.

VI. Cumberland Presbyterian Church.—The statistical reports of this Church made to the General Assembly in May, 1890, give the following footings: Number of ministers, 1,547; of congregations, 2,546; of members, 138,554; number of additions during the year on profession, 14,356; of baptisms, 9,171 of adults and 14,256 of infants; number of members of Sunday-schools, 74,576. Whole amount of contributions, \$553,033; value of church property, \$2,420,500.

The accounts of the Board of Education for the year were balanced at \$3,308. A considerably larger number of churches had contributed to its funds than in the preceding year. Fifty-four students had been aided, with a total expenditure of \$2,435. There were 193 ministerial students in all the schools of the Church.

The receipts of the Board of Ministerial Relief, now in the ninth year of its operations, had been \$10,306. It had aided 80 cases of ministers, widows, and orphans in the total sum of \$6,600.

The receipts of the Board of Missions had been: For foreign missions, \$19,276; for home missions, \$11,080; for church erection, \$2,502; and other receipts, \$6,708; making in all, \$39,566. The foreign mission is in Japan.

The sixtieth General Assembly met at Union City, Tenn., May 15. The Rev. E. G. McLean was chosen moderator. The Assembly was addressed by a corresponding delegate of the Colored Cumberland Presbyterian Church, who said that that body, set off twenty years before as a separate organization, had grown from 1 presbytery to 20 presbyteries, with 225 ministers, 125 licentiates, 20 candidates, and 20,000 communicants. The attention of the Assembly was drawn to the doctrine respecting the atonement taught in a book on soteriology, by the Rev. Dr.

S. G. Busney, Professor of Systematic Theology in Cumberland University. The examination in the case resulted in the decision that no action need be taken upon it. Another case of heresy was that of Mrs. Louisa A. Ward, who had been tried and excommunicated by the presbytery of Lexington, Mo., for teaching that Mr. George J. Sweinfurth, of Rockford, Ill., is the Lord Jesus Christ. She was permitted to explain her views to the Assembly, after which the sentence of excommunication was confirmed. The exact standing of elders has been a subject of discussion in this Church for several years. An overture presented to the present Assembly, declaring that while the offices of elder and deacon are perpetual, the exercise of their functions may be restricted to a given period was rejected. A proposition so to change the general regulations of the Church as to confine the office of moderator to ordained ministers, was rejected. A minute was adopted defining the phrase "fully consecrated to the active duties" of the Church, which describes the qualifications of those who may receive aid from the Disabled Ministers' fund. The Assembly decided that while it did not exclude those who engaged in occupations outside of preaching for considerations of health or temporary circumstances and the better to enable them to preach the Gospel, it was intended to exclude those who made any secular employment their primary business, and the preaching of the Gospel only incidental. Measures were considered for increasing the efficiency of the publishing house and of the periodicals of the Church; for improving the organization and extending the usefulness of the Sunday-schools; and for securing reports to the General Assembly from all the literary schools. More than half of the \$2,000 pledged to the colored school at Bowling Green, Ky., by the preceding General Assembly had been paid in. Resolutions were passed urging a strict observance of the Sabbath, and emphasizing the duty of every member "to use every means sanctioned by his own enlightened judgment as laudable, for securing, as soon as possible, absolute prohibition of the nefarious liquor traffic"; and every minister in charge of a congregation was requested to preach during the year on the subject of temperance, setting forth that complicity in the use of ardent spirits, or in dealing with them, as a beverage, is inconsistent with Christian character.

VII. Presbyterian Church in Canada.—

The statistical returns of this Church, presented to the General Assembly in May, represent 1,920 churches, which have sitting accommodations for 454,207 persons, and give: Number of communicants, 157,990; additions during the year on profession of faith, 11,302; amount paid for stipends, \$777,199; total contributions for congregational purposes, \$1,640,814; total contributions for all purposes, \$2,054,951, or \$24.72 per family and \$13 per member. Reports from 1,718 Sabbath-schools gave the number of officers and teachers as 15,434, and of pupils as 139,135.

The receipts of the French Evangelization Committee for the year had been \$53,000. Thirty-nine mission schools were returned, having 1,020 pupils. The school at Point aux Trembles had been attended by 143 pupils. More than \$8,000 had been contributed for the extension of the

girl's department. Buildings have been bought at Ottawa, at an expense of \$20,000, for Coligny College, for the Christian education of young women. The committee also returned 92 mission stations, with an average attendance of 3,000 persons and 1,337 communicant members.

The Church and Manse Building fund had during the past seven years by loan and donation aided in the erection of 180 churches and 20 manse in the Northwest.

The expenditures for home missions had been \$11,646 in the East and \$40,087 in the West, while the mission churches of the two sections had contributed respectively \$17,355 and \$58,025 for their own support. The missions in the East included 2,503 Presbyterian families with an average church attendance of 13,120; those in the West comprised 820 stations, with 9,188 families and 11,517 communicants. Sixty-one congregations in the East, and 138 in the West were receiving aid from the Augmentation fund. Together they had received \$47,748 in aid.

The theological colleges at Halifax, Quebec, Kingston, Toronto, and Winnipeg returned 200 students with 65 members of graduating classes.

The contributions for foreign missions amounted to nearly \$105,000, of which the woman's foreign missionary societies furnished nearly \$37,000. Thirty ordained missionaries, 25 women, and nearly 150 native preachers were employed in missions in the New Hebrides, Trinidad, Formosa, Honan (China), Central India, and Manitoba and the Northwestern Territories. Eight missionaries had been added to the staff. A new mission was to be begun among the Jews in Palestine.

The General Assembly met in Ottawa, June. The Rev. Dr. John Laing was chosen moderator. The question of the recognition of marriage with a deceased wife's sister, on which the previous General Assembly had taken action favorable to tolerance, arose again on the application of a church for leave to receive a minister of another church who had contracted such a marriage. The application was held over, pending the action of the presbyteries on a resolution sent down to them to the effect that "the discipline of the church shall not be exercised with regard to marriage with a deceased wife's sister or a deceased wife's niece." The Committee on the Defense of Civil and Religious Rights reported, congratulating the friends of equal rights on what had been accomplished in one year, on the check that had been given to the oppressions of ultramontaniam, and on the improved tone of public and parliamentary discussion of the subject. The resolutions adopted by the Assembly commit the Church to the earnest and persistent advocacy of reforms, including the complete separation of Church and state, each to be independent in its own sphere—a free church in a free state; the abolition of all grants from the public exchequer for ecclesiastical or sectarian purposes; the abolition of compulsory tithes and other ecclesiastical dues, at present collected in the Province of Quebec by civil process; and the abrogation of clauses in the order of precedence for the Dominion which recognize Roman Catholic ecclesiastics and ignore the great Protestant churches. The committee was reappointed, with authority to take any action deemed proper to

resist any further assaults upon civil and religious rights, and to consider what practical action can be taken, in concert with other Presbyterian churches, in the matter, and to secure the reforms already agreed upon. The committee on Christian Union, especially with the Episcopal and the Methodist Churches, having reported no advance since the fraternal conferences of the previous year, was reappointed, and a resolution was passed expressing the opinion that while the Nicene Creed is a sufficient basis on which to begin negotiations with a view to union, it is not a sufficiently full statement of Christian faith and doctrine; and that "the historic episcopate" is accepted by the Presbyterian Church in harmony with the teachings of the New Testament regarding the office bearers of the Church. The committee was further instructed, if corporate union can not at present be secured, to consider the question of establishing such relations with the other churches "as may prepare the way for fuller organic union hereafter." The position which the Assembly should take upon temperance was much debated, and the following resolution was adopted:

This Assembly believes that the general traffic in intoxicating liquors is a source of terrible and enormous evils; that it blights the prospects, destroys the health and character, and ruins the soul of the individual; that it mars the happiness, wastes the resources, and degrades the life of the family; that it lowers the moral sentiment and endangers the peace and safety of society; that it greatly increases the number of "lapsed masses," intensifies every evil, and is a most fruitful source of crime; that it not only hinders most seriously, and in many ways, but antagonizes the Church in her work of uplifting the race and winning souls for Christ, and that it is contrary to the teaching of Scripture and the spirit of the Christian religion.

The organization of Young Peoples' Societies of Christian Endeavor in all congregations was recommended, with the stipulation that the constitutions thereof should be approved by the sessions. An overture from the Presbytery of Indore, Central India, concerning the proposed union of Presbyterian churches there, was approved, and the Foreign Mission Committee was instructed more fully to consider it and advise the missionaries in the matter.

VIII. Church of Scotland.—The General Assembly of the Church of Scotland met in Edinburgh, May 22. The Rev. A. K. H. Boyd was chosen moderator. The Committee on Statistics reported the number of communicants at 581,568, showing an increase of 5,723. The amount of contributions for the year had been £354,480, and the seat rents had returned £64,814, making the entire income of the Church £419,295. The committee of the Endowment fund returned a total income of £10,715. Three new parishes had been endowed, bringing the whole number erected and endowed under the scheme up to 366, at a total cost of £1,320,700. The Patronage Compensation Committee still had on its roll 139 parishes for which compensation was claimed. The contributions for this cause showed a slight increase, and amounted to £1,282. The income of the Home Mission Committee had been £10,042. It had the care of 75 mission stations, with 80 mission churches, having an average attendance of 15,467 persons, to which grants

of £3,185 were voted. The capital of the Aged and Infirm Ministers' fund stood at £28,427, showing an increase of £1,862. The contributions for the year were £3,230. The income of the Jewish Mission had been £7,803, as compared with £4,851 in the previous year. Special accounts were given of the work of the mission in Alexandria and Smyrna. The contributions for foreign missions had been £22,421, showing an increase of £6,272. Nine hundred persons had been baptized in the missions. Including the income of the Ladies' Association and the amounts obtained in India, the whole missionary income of the Church was £30,000. According to the report of the Committee on Temperance, there were in the Church 222 temperance associations, with 25,000 members. A letter from the Synod of the Church of Scotland in England reported a slight increase of members there. The most prominent subject discussed by the Assembly was the movement for disestablishment. In reference to it a resolution was unanimously agreed to that in the altered circumstances, and in view of the momentous issue raised, the Assembly authorize its Committee on Church Interests to take action to inform the people of Scotland on the subject, to promote defensive organizations, and to appeal for funds to carry on the work of defense. A resolution was adopted with reference to the Universities bill, pledging the Assembly to efforts to secure the retention of the divinity faculties in the Scottish universities, and declaring that the combination of the Scottish churches in theological teaching and the university system would be best brought about by a measure for making the divinity halls of other Christian bodies part of the universities. A committee appointed to prepare a statement as to the practice throughout the Church in public worship and the celebration of the sacrament reported that a great many changes seemed to have been introduced within recent years, and the want of uniformity in the services was probably greater than at any previous period. The time appeared to have come when the Church should consider the subject, and when the law and practice should be brought into closer harmony.

IX. Free Church of Scotland.—The General Assembly of the Free Church of Scotland met in Edinburgh May 21. The Rev. Dr. Thomas Brown was chosen moderator. The Finance Committee reported that the average annual income of the Church for the decade 1880 to 1890 had been £907,000. The increase of income had been steady since 1850. The Education Committee had received £4,290. The Widows' and Orphans' funds had been increased during the year by £18,777; the capital of the Aged and Infirm Ministers' fund by £20,849; and the Sustentation fund to £1,452.

Grants had been made from the Church Extension and Building fund of £2,264 for building and £1,665 for rebuilding. The funds of the Home Mission Committee had suffered a slight diminution. The income for foreign missions had been £96,107, or, if Jewish and Continental missions were also included, £113,431. The missions returned 26 stations with 181 branch stations, 132 European missionaries, 684 native agents, 6,620 communicants, 496 baptized in 1889, and 326

schools, with 28,826 pupils. In the discussion over the report of the committee, Prof. Lindsay expressed the conviction, as the result of a visit to the missions in India, that the Educational missions, while their results in conversions might have been few, were the only ones that had met any success among caste Hindus.

Overtures and representations against alleged unorthodox doctrines declared and taught by Prof. Marcus Dods, of the Free Church College (see "Annual Cyclopædia" for 1889), and also against declarations by Dr. A. B. Bruce, another theological professor, were referred to the college committee. Its report in the case of Prof. Dods expressed the opinion that his writings did not afford ground for instituting a process against him for teaching what was at variance with the standards of the Church, but nevertheless the committee recognized the existence of causes for profound anxiety in connection with these writings, which had been felt by so many estimable office bearers and members of the Church, arising in part from the startling and unguarded manner in which Dr. Dods had in some cases expressed himself.

Five motions were offered as to the manner in which the case should be disposed of. Of these, the motion of Dr. Adam, substantially representing the views of the committee, was adopted by a vote of 357 against 274 votes cast in favor of the motion proposed by the friends of Dr. Dods. Dr. Adam's motion, which the Assembly made its own, expressed approval of the report; but in view of the questions which had been raised by certain passages in Dr. Dods's writings, pronounced it necessary to declare that the Church holds immovably to the cardinal doctrine of our Lord's divinity, and highly disapproves of all representations which tend to lower the sense of its vital importance in the minds of many hearers of the Gospel; that the Church adheres steadfastly to the fundamental doctrine of the atonement as laid down in her standards; that the Church firmly believes that the resurrection of our Lord is not only an incontestably proved fact, but one which lies at the very foundation of the Christian system; and that the Church continues to hold that the Holy Scriptures are "all given by the inspiration of God to be the rule of faith and life." While acknowledging Dr. Dods's strong declaration of adherence to the doctrines of the Church, the Assembly reminded him and the Christian professors generally that the primary duty devolving on them in their responsible offices was to defend and teach the Church's faith as embodied in the Confession.

In the case of Prof. A. B. Bruce, the Assembly, on the motion of the Rev. R. G. Balfour—which was adopted by a vote of 392 to 237 votes for remitting the case to the Presbytery of Glasgow—approved the conclusion of the report of the college committee in finding no grounds against him for teaching doctrines opposed to the standards of the Church; but it also declared:

1. With respect to the inspiration of the gospels and to the reliable character of their reports as to the life and ministry of the Blessed Lord, the Assembly find that by want of due care in his modes of statement and by his manner of handling debated questions as to the motives and methods of the evangelists Dr. Bruce has given some ground for the misunderstandings and pain-

ful impressions which have existed; 2. With respect to Dr. Bruce's doctrinal positions, and his statements about the system of the Christian faith, the Assembly find ground for reminding Dr. Bruce that in endeavoring to state afresh the bearing of our Lord's teaching, and in setting forth aspirations after fresh light upon the matter of the teaching received among us, he was bound to express himself not only with essential loyalty to the Church's faith professed by him, along with all his brethren, but also to make that continued loyalty evident to the world. The motion closed with the words: "The Assembly cordially recognize the good gifts which Dr. Bruce has brought to the service of the Church in the line of theological literature and otherwise, as well as those which distinguished Dr. Dods, whose case was before the Assembly at a former diet. They assure those brethren of the Assembly" a earnest desire for their acceptance and success in the important work which the Church has intrusted to them."

The Committee on the Revision of the Confession of Faith reported that it had been chiefly occupied in gathering information on the practice obtaining in Presbyterian and non-Presbyterian churches with reference to creeds and creed subscription. Some members of the committee had thought an effort should be made to give speedy relief to consciences by a relaxation of the present formula. Others held that the various points of difficulty tabulated should be considered for the purpose of determining what topics might be embraced in a declaratory act—not as being absolutely committed to the ultimate passing of such an act, but as contemplating the possibility or probability of that being the issue. The latter view had prevailed.

Concerning overtures relative to union with the United Presbyterian Church and the minute of the Synod of that body on the subject, the Assembly expressed gratification; authorized its Home Mission Committee to meet with a committee of the United Presbyterian Church for the consideration of measures fitted to remedy overlapping in mission work and to promote union in thinly-populated and over-churched districts; and renewed the recommendations of the last Assembly to promote the spirit of co-operation and union between the two churches.

The report of the Committee on the Connection between Church and State took notice of the various events having a bearing on the movement in favor of disestablishment that had occurred during the course of the year, and particularly of the fact that one of the parties had been persuaded that justice and expediency required that the change should be carried into effect. The Church would be disposed to be equally appreciative when the other party should see its way to take the same view. The situation had now reached a stage in which, if they were in earnest about it, they ought to commend it to the people of Scotland to take up the question. The Assembly declared satisfaction at the progress that had been made in the discussion of the question of disestablishment.

X. United Presbyterian Church of Scotland.—The statistical reports of this Church, made to the Synod in May, showed that the number of communicants had increased during the year by 1,391, and that congregational incomes were larger by upward of £10,000. The total income of the Synod had been £83,142, against £96,307 in 1888.

The income of the Foreign Mission fund for the year had been £33,229. One hundred and seventeen trained agents were employed in the mission fields, of whom 54 were ordained European missionaries. The 96 congregations returned an aggregate membership of 14,899, with 2,755 candidates for admission. The average annual increase of members in the native churches since 1880 had been 549. A report was submitted relative to the educational work in India. On inquiring of the missionaries at Rajputana, the board found their unanimous testimony to be that the educational work had proved a most valuable agency; that care had been taken all along to give special and systematic scriptural instruction to the native teachers; and that with one or two exceptions in the initial stages of the mission the non-Christian teachers had not been known to exercise over the children any influence adverse to Christianity. Most of them were themselves inquirers after the truth and friends of the mission.

The Synod met in Edinburgh, May 5. The Rev. James Fleming was chosen moderator. The most important subject of discussion rose upon an overture asking for an examination into the teaching in the Theological College. A committee was appointed to go over the whole question brought up by the overtures, to inquire into the present condition and working of the college, and report as to their findings to the next Assembly, with recommendations.

The report on disestablishment, which was approved by an overwhelming majority of the Synod, affirmed that marked progress had been made on the subject during the year. Politicians recognized in it a question which could no longer be omitted from their councils, and the Presbyterians of Scotland, alive to the nearness of the crisis, were preparing for dealing with it. The long and faithful testimony of the United Presbyterian Church in favor of voluntarism had its reward in the present advanced position of the question. A resolution favoring the abolition of state teaching of theology, declared that it would be dangerous for the Church to sanction the idea that under chairs in the national universities theology should be taught in an undogmatic way, because under the guise of undogmatic teaching things detrimental might be introduced. An overture in favor of cultivating closer relations with the Free Church was gratefully received, and the Home Board was authorized to meet with a committee of that Church for the consideration of plans of co-operation.

XI. Presbyterian Church in Ireland.—The General Assembly of this body comprises 557 congregations and 637 ministers. The income of the Sustentation fund was returned at £22,811. The General Assembly met in Belfast, July 6. The Rev. William Park was chosen moderator. The principal feature of the meeting was the celebration of the jubilee of the Church, July 9. Addresses were delivered by the Rev. Dr. Wilson; by the Rev. Dr. Killen, on the "Story of the Union"; by the Rev. Dr. John Hall, of New York, on "Irish Presbyterians in other Lands." Deputies were received from the Reformed Presbyterian Church, and a committee was appointed to confer with sister churches on the subject of union.

XII. Presbyterian Church in England.—The statistical reports of this Church, made to the Synod in May, showed that the number of members was 65,055. The income of the Church for the year had been £234,664. The Sustentation fund had been sufficient for the division among its beneficiaries of a surplus beyond the £200 equal dividend. The number of pupils in Sabbath-schools was 78,490, and of teachers in the same 7,340. The income for missions had been £20,654. The mission in China returned 20 European ordained missionaries, 10 medical missionaries, 16 women, 8 native pastors, 108 native evangelists, 41 theological students, 43 organized congregations, 87 preaching stations, and 3,572 communicants. The English Presbyterian Church was the most visible Church in southern China.

The Synod met in Liverpool, April 29. The Rev. John Thompson was chosen moderator. The committee appointed at the last meeting to respond to the overtures of the Anglican bishops on Christian union reported the correspondence it had had with the Archbishop of Canterbury. The committee, while expressing gratification that the Presbyterians found themselves in accord with the Episcopalians in everything which was deemed essential in regard to faith and worship, did not regard the suggested basis of union as going so far in the definition of doctrine as was desirable, while the article dealing with the "historic episcopate" called for fuller explanation. The archbishop had replied courteously to this letter, and promised to lay the matter before the English bishops at their next meeting. Deputations were received from the Free Church and the United Presbyterian Church of Scotland under the newly established federal relations with these churches as members of the court. The moderator said that the Synod recognized this federation as a step toward the federation of all the churches in the north. They had all wished to see one Presbyterian Church for the three kingdoms, if not for the whole of the British Empire. The new articles of faith (see "Annual Cyclopædia" for 1888) having been favorably passed upon by the presbyteries, were approved by the Synod as a statement of the fundamental doctrines held and taught by the Church, and were authorized to be published in such form as might be found useful. The Synod renewed its instructions to the committee to consider whether any change should be made, and, if so, what change, in the present relations of the Church or of its office bearers to the subordinate standards, and to report to the next Synod. It was also instructed to continue the preparation of the proposed appendix to the articles. As measures for maintaining the efficiency of ministers, the Synod recommended visitation of congregations in behalf of presbyteries. An overture relating to the tendency to introduce questionable amusements in connection with the Church was referred to the presbyteries.

XIII. The Welsh Calvinistic Methodist Church.—There were returned of this Church at the meeting of the General Assembly in May, 1,258 congregations, 1,474 churches, 542 school-rooms, 90 mansees, 673 ministers, 4,833 elders, 134,239 communicants, and 283,629 adherents, with 187,393 members of Sunday-schools. The

total amount of collections for the year was \$910,330. The reports showed that there had been during the last twenty years an increase in the membership of 41,811, and in the collections of \$318,215. The missions of this Church are in Brittany and India. The Indian mission returned 78 churches and 6,054 members.

The General Assembly met in Liverpool, May 20. The Rev. Daniel Rowlands presided as moderator. The trustees of the Jubilee fund of £20,000 which the Assembly had undertaken to raise, reported that nearly half of the sum had been obtained. A resolution was unanimously passed, declaring—

That this Assembly, representing 134,239 communicants and 285,629 adherents, desires to express its strong conviction that the success of spiritual religion and the earnest co-operation of Christians of all denominations in the great warfare against sin, and for the advancement of the social and moral welfare of the people, and for the furtherance of the kingdom of our Lord and Saviour Jesus Christ, are greatly hindered by the connection between the Church and state in the principality, and also that this relation under the present condition of the country is utterly unjust. It declares, therefore, its belief that the time is fully come when this connection should be severed. While believing this, the Assembly sincerely desires the true prosperity of the Church as a religious institution, and as a branch of the Church of Christ.

Another resolution pledged the Assembly to do all in its power to promote the principles of the Evangelical Alliance. The formation of a Welsh Nonconformist Union was approved of, and representatives of the Assembly were appointed to serve upon its council.

PROTESTANT EPISCOPAL CHURCH IN THE UNITED STATES. This Church, claiming apostolic descent through the Church of England, has encouraging signs of continued prosperity and usefulness. Eminently conservative, it strives, through uniform adherence to law and order, in the use of the ancient creeds and liturgies, as well as of sound, wholesome discipline, to do its appointed work among the American people. Speaking generally, it has gone forward during this year quietly, and with as little friction as possible arising out of questions still in great measure unsettled. We refer to the points involved in the controversy as to the necessity of episcopal ordination to a valid ministry, and the various changes proposed for the improvement of the Book of Common Prayer. Although the several Protestant denominations continue, as heretofore, to manifest unwillingness to accede to the proposition of the House of Bishops in regard to the "historic episcopate," yet the spirit in which the subject is discussed is such as to give good hope of ultimately reaching a conclusion satisfactory to all concerned. Considerable license is allowed in the use of public services after models hoped or expected to be authorized by the General Convention of 1892, and various clergymen and churches avail themselves of this privilege. The chief sources of information for preparing the present article are, as in former years, Pott's "Church Almanac and Year-Book," and Whitaker's "Protestant Episcopal Almanac." The following table gives a summary of Church statistics during 1890:

Number of dioceses.....	52
Number of missionary districts.....	17
Bishops.....	73

Priests and deacons.....	4,107
Whole number of clergy.....	4,180
Parishes (about).....	8,400
Ordinations, deacons.....	164
Ordinations, priests.....	119
Candidates for orders.....	61,000
Baptisms, infant and adult.....	41,300
Confirmations.....	42,400
Communicants.....	509,000
Marriages.....	16,141
Burials.....	80,166
Sunday-school teachers.....	41,000
Sunday-school scholars.....	386,000
Total of contributions (nearly).....	\$12,800,000

DIOCESSES.	Clergy.	Parishes.	Baptisms.	Confirmations.	Communicants.
Alabama.....	85	48	457	210	5,777
Albany.....	126	116	1,800	1,500	16,500
Arkansas.....	17	25	225	222	2,074
California.....	98	75	1,192	944	8,500
Central New York.....	165	108	1,591	1,182	15,814
Central Pennsylvania.....	110	100	1,482	1,061	9,612
Chicago.....	80	48	1,850	1,038	12,515
Colorado.....	83	80	468	302	8,324
Connecticut.....	195	146	2,844	1,828	25,650
Delaware.....	35	28	415	254	2,686
East Carolina.....	28	40	392	219	8,000
Easton.....	38	37	402	296	2,752
Florida.....	49	50	454	427	8,700
Fond du Lac.....	24	18	427	306	3,851
Georgia.....	40	38	472	384	5,272
Indiana.....	89	40	549	455	5,176
Iowa.....	57	46	537	576	6,244
Kansas.....	85	80	412	375	8,346
Kentucky.....	43	37	617	508	6,526
Long Island.....	119	83	2,061	1,767	21,947
Louisiana.....	88	44	501	452	4,687
Maine.....	24	22	300	162	8,018
Maryland.....	176	189	2,623	2,068	27,482
Massachusetts.....	192	185	3,064	1,785	27,115
Michigan.....	77	71	1,539	995	12,754
Minneapolis.....	59	87	639	456	6,259
Minnesota.....	95	78	1,276	850	8,500
Mississippi.....	84	85	391	318	3,029
Missouri.....	77	55	1,029	708	8,824
Nebraska.....	85	25	432	400	2,351
Newark.....	100	68	1,708	1,120	15,417
New Hampshire.....	84	30	345	207	2,750
New Jersey.....	103	76	1,643	920	12,549
New York.....	357	206	7,112	4,380	51,629
North Carolina.....	59	48	424	420	4,414
Ohio.....	70	74	1,244	950	9,880
Oregon.....	19	24	206	95	1,310
Pennsylvania.....	219	125	5,297	2,705	36,121
Pittsburg.....	75	75	1,300	858	9,216
Quincy.....	29	30	222	193	2,062
Rhode Island.....	50	48	1,227	629	9,353
South Carolina.....	47	55	556	408	4,444
Southern Ohio.....	53	49	462	377	2,782
Springfield.....	41	41	378	226	3,341
Tennessee.....	45	34	530	413	4,890
Texas.....	28	29	428	308	3,342
Vermont.....	33	40	368	259	4,286
Virginia.....	152	200	1,676	1,602	16,392
West Missouri.....	35	24	400	249	3,150
West Virginia.....	23	30	287	224	2,920
Western Michigan.....	29	28	514	319	4,022
Western New York.....	112	114	1,817	1,375	15,169
MISSIONS.					
Alaska.....	[Not reported.]				
Montana.....	15		316	196	1,329
Nevada and Utah.....	11		287	115	1,060
New Mexico and Arizona.....	6		94	65	572
North Dakota.....	12		151	86	713
Northern California.....	20	15	887	207	1,013
Northern Texas.....	14	12	182	165	1,805
South Dakota.....	31	50	1,066	419	2,545
The Pacific.....	9	15	110	70	805
Washington.....	18	19	214	184	1,746
Western Texas.....	18	20	205	111	1,800
Wyoming and Idaho.....	25	20	308	85	1,600
West Africa.....	15		206	79	709
China.....	31		131	70	589
Japan.....	13		218	186	994
Haiti.....	15		77	8	402
Mexico.....	5		76		750

NOTE.—For totals, see summary above.

The Domestic and Foreign Missionary Society of the Protestant Episcopal Church in the United States.—This society is composed of all members of the Episcopal Church. It is represented in *The Board of Missions*, which meets triennially, and is composed of both Houses of the General Convention and the Board of Managers. *The Missionary Council* meets annually, and is composed of all the bishops and an equal number of presbyters and an equal number of laymen. *The Board of Managers*, of which the presiding bishop is president, consists of elected members, 15 bishops, 15 presbyters, and 15 laymen, together with *ex officio* members, all the other bishops, and the two secretaries of the Missionary Society. This board holds its meetings monthly.

Domestic Missions.—Sept. 1, 1889, to Sept. 1, 1890: Missionaries (13 missionary jurisdictions and 32 dioceses), bishops, 12; other clergy (white, colored, Indian), 490; teachers, other helpers, etc., about 100; total, 602. The financial condition was as follows:

Balance in hand, Sept. 1, 1889.....	\$50,050 20
Offerings.....	178,676 78
Legacies.....	34,478 12
Specials.....	44,847 67
Total.....	\$301,552 77

Expenditures (18 missionary jurisdictions and 32 dioceses, including Indians, etc.).....	\$219,997 54
Specials.....	41,446 28
Office and other expenses.....	17,201 85
Overdraft (from other funds), Sept. 1, 1890.....	22,906 85
Total.....	\$301,552 77

Foreign Missions.—Sept. 1, 1889, to Sept. 1, 1890: Missionary bishops, 4; other clergy (foreign and native), 80; teachers, helpers, etc., 205; total, 285. The financial condition was as follows:

Balance in hand, Sept. 1, 1889.....	\$35,819 09
Offerings (including some special contributions and legacies).....	98,019 18
General fund for foreign missions.....	75,784 02
Specials.....	20,651 78
Total.....	\$229,223 97

Expenditures on missionary work in Africa, China, Japan, Greece, Hayti, Mexico.....	\$179,344 28
Specials.....	14,612 94
Salaries, printing, etc.....	17,523 09
Balance at credit, Sept. 1, 1890.....	18,743 71
Total.....	\$229,223 97

The Woman's Auxiliary to the Board of Missions renders aid in all the departments by means of parochial, city, country, and diocesan associations of ladies, formed for the purpose of raising money, forwarding boxes to missionaries and missionary stations, etc. A junior branch of the Auxiliary has been established, and training houses for women as missionaries are well under way, with bright prospects of usefulness. Money raised for domestic, foreign, Indian, freed-men, and other missions, 1889, 1890..... \$144,516 27
Boxes for the same (3,793 in number), value..... 197,381 82

Total, in money and boxes..... \$342,197 59

The American Church Missionary Society (also auxiliary to the Board of Missions) has employed during the year, in 25 dioceses and missionary jurisdictions, 52 missionaries. Of these, 13 have resigned, leaving the number at date 39. It has also in the foreign field 2 clergymen and

2 lay helpers in Cuba, and 2 clergymen and 2 lay helpers in Brazil.

Receipts for domestic missions.....	\$18,708 31
Receipts for foreign missions.....	6,481 49

Total..... \$20,189 80

Specials.....	\$19,520 78
Balance, Sept. 1, 1889.....	45,717 02

Total..... \$65,237 80

Balance, Sept. 1, 1890.....	\$26,374 80
The society has also in securities, property, etc.....	\$154,400 00

The American Church Building Fund Commission, established ten years ago, continues to do, on a somewhat increased scale, good and efficient work. All the bishops are *ex officio* members of the commission. There are 20 commissioners at large, 12 clergymen, and 8 laymen. There are also two diocesan commissioners in every diocese. Under the act of incorporation, 17 trustees were elected to serve for three years, viz., 2 bishops, 8 clergymen, and 7 laymen. The trustees keep steadily in view the raising of the fund to \$1,000,000, as originally proposed, so as to enable the commission to aid in furthering the extension of the Church by means of loans and gifts to struggling parishes and congregations. From various causes not easy to define the fund has increased but slowly. It now stands at \$190,175.49. During the year 1890 loans have been made to 21 churches, in different parts of the United States, in sums from \$300 to \$1,000, with several as large as \$2,000 and \$3,000, amounting in all to over \$21,000. The trustees are working bravely on, and urge with much force upon the rich men and women of the Church that "there is no other money, given for any other religious or benevolent purpose, which is even expected to do the repeated and never-ending work which is the blessed mission of this permanent fund. It will go out and return, and go out and return, so long as the Gospel is to be preached; and its active work will only cease when time shall be no more."

The Society for Promoting Christianity among the Jews (also auxiliary to the Board of Missions) makes its twelfth annual report in encouraging terms. The work is purely of a spiritual kind, no temporal aid or help being made. It is difficult work, but experience has furnished the lessons needed to insure success. The society has now a missionary house of its own, and in financial matters the strictest economy is practiced. The society's missionaries are at work in ten of the large cities. There are four missionary schools, four industrial schools, and three night schools. The parochial clergy co-operate with the society's effort in every diocese. Of publications, 46,500 copies were issued during 1890; and Bibles, Testaments, Scripture portions, and Prayer Books were circulated in English, Hebrew, German, and other languages.

Sept. 1, 1890, balance from old account.....	\$8,296 01
Sunday contributions, church and Sunday-school offerings (including specials).....	11,144 81

Total..... \$19,440 82

Expenditures for schools, salaries, publications, etc.....	\$12,718 82
Real-estate account.....	1,485 70
Balance to new account.....	5,241 80

Total..... \$19,440 82

General Condition of Church Affairs.—During 1890 death has considerably depleted the number of the clergy. One bishop, viz., Rt. Rev. J. W. Beckwith, Bishop of Georgia, has departed this life. Of the other clergy, priests, and deacons, seventy-seven have gone to their rest. We have already intimated that the Protestant Episcopal Church has abundant cause for thankfulness in the blessing of God upon the manifold agencies employed toward setting forward the Gospel of our Lord Jesus Christ. A truly devout spirit seems to influence in every direction the members of the Church, and there is appar-

ent an earnest effort to deal with perplexing social, political, and other questions of the day, in a practical way of solving them for the temporal as well as the spiritual welfare of all sorts and conditions of men. Education, in the full and best sense of the word, is steadily advancing; the young people of the Church, of both sexes, are alive to their duties and opportunities; and though the picture is not in all respects such as it might be, yet it is sufficiently clear and distinct to warrant the conviction that God's blessing will continue to be bestowed upon his people in the work appointed them to do.

R

RANDALL, SAMUEL JACKSON, statesman, born in Philadelphia, Pa., Oct. 10, 1828; died in Washington, D. C., April 13, 1890. He was a son of Josiah Randall, a well-known lawyer and Democratic politician of Philadelphia, and, after receiving an academic education, he engaged in mercantile business, first as clerk in the counting-room of a firm of silk merchants,



SAMUEL JACKSON RANDALL.

and afterward as junior partner in the iron firm of Earp & Randall. Before reaching his majority he showed a strong passion for political life. He diligently studied parliamentary law, practiced speaking in public, and, after casting his first ballot, he began taking an active part in local political affairs. His personal aggressiveness and abilities as a debater soon attracted to him many admirers, who elected him to the City Councils of Philadelphia and kept him there for four years. At this time he was in affiliation with the Old-line Whig party. In 1856 he joined the Democratic party, and as its candidate was elected to the State Senate. He served there during the session of 1858-'59, and distinguished himself by his knowledge of parliamentary law, his grasp of public affairs, and his vigor and tact in debate. For some time prior to the civil war he had been a private in the Philadelphia City Troop. When the Government issued its call for volunteers for ninety days, in April, 1861, his company tendered its services, and with it he was mustered into the volunteer army on May 13. The troop was assigned to duty with the Second United States Cavalry, then commanded by Col. George H. Thomas. During his first campaign Mr. Randall became so im-

pressed with the soldierly qualities of his commander that he wrote a personal letter to the Secretary of War, urging the promotion of Col. Thomas, and shortly afterward the promotion was announced. Mr. Randall was subsequently commissioned captain of the troop. In 1862 he was elected to Congress as a Union Democrat from the First District, which embraced nearly the same wards in Philadelphia that now compose the Third District, and by successive re-elections he held his seat till his death. In 1863, on the advance of the Confederates toward Washington, and on the call for Pennsylvania troops to resist the invasion of that State, he again volunteered with his troopers for service, and was on duty in Harrisburg, Gettysburg, and Columbia (where he was provost marshal) till the emergency had passed. He then resumed his public duties, and retained command of the City Troop till 1866.

During his first term in Congress he was a member of the Committee on Public Grounds and Buildings. In his second term he served on the committees on Banking and Currency, Retrenchment, and Expenditures in the State Department; and in his third term he was reappointed to these three committees and also was chosen as a Democratic representative on the special committee on the assassination of President Lincoln. In the early reconstruction days his party in Congress was in such a minority that he confined himself to committee work, and it was not till "the minority grew strong enough to have confidence in itself" that he made any impression on the floor of the House. In 1869 he became a member of the Committee on Elections and of the joint Committee on Retrenchment, and in 1871 was associated with James G. Blaine, Nathaniel P. Banks, James A. Garfield, and Samuel S. Cox on the Committee on Rules, of which he remained a member till his death. In the succeeding Congress, Dec. 1, 1873, to March 4, 1875, it was through his efforts that the bill to regulate Federal elections—called by Democrats the "Force" bill—was kept from passage in the House in time to be adopted in the Senate. In 1874 the congressional elections gave the House of Representatives to the Democratic party, and Mr. Randall's friends urged him for the speakership. But the South and West combined in the caucus in favor of Michael C. Kerr, of Indiana. Mr. Randall acquiesced in the choice, and after the election of Mr. Kerr, in December,

1875, was appointed chairman of the Committee on Appropriations. He thus became virtually the leader of the majority of the House, with an opposition majority in the Senate. His long and varied committee service had given him an unusual familiarity with the details of every department of government business, and his first appropriation bill called for an expenditure of \$38,910,984.29 less than had been appropriated the preceding year by a Republican Congress. The debate on this bill was prolonged and bitter, and raised a question as to the rights of the Senate and House respectively in the matter of the levy and disposal of the revenue. Mr. Randall responded to a vigorous attack on the bill, "I take all the rights for this House which the Constitution gives it, and will be satisfied with nothing less." The bill was adopted in the House and, in amended form, by the Senate.

Speaker Kerr died in August, 1876, and on the meeting of Congress, in December following, Mr. Randall was elected Speaker. He assumed the office at a period of general political excitement, resulting from the complications over the presidential election. He personally witnessed the counting of the Louisiana returning board, and opposed the appointment of the Electoral Commission; but after the passage of the bill authorizing the commission he counseled order and acquiescence, and presided over the House with marked dignity. He was re-elected Speaker in 1877 and 1879, and was defeated by John G. Carlisle in 1883, when he was reappointed chairman of the Committee on Appropriations. Subsequently he lost the support of some of the strongest members of his party by advocating the appointment of the tariff commission, serving as a member of the Conference Committee, and opposing the Morrison and Mills tariff bills.

REFORMED CHURCHES. I. Reformed Church in America.—The following is a summary of the statistics of this Church as they are given in the report of the acts and proceedings of the General Synod of 1890: Number of particular synods—New York, Albany, Chicago, and New Brunswick—4; of classes, 34; of churches, 551; of ministers, 590, with 6 licentiates; of families, 49,135; of communicants, 90,878; of baptized non-communicants, 38,472; of Sunday-schools, 798, with 103,046 pupils; of catechumens, 35,805; of baptisms during the year, 5,253 of infants and 1,389 of adults; amount of benevolent contributions, \$313,499; of contributions for congregational purposes, \$1,003,815.

The Board of Direction reported to the General Synod the receipt and expenditure of \$198,630. The balance sheet showed the amount of all the funds under its care as \$785,454. The Board of Education returned permanent funds amounting to \$42,665. It had aided 93 students, 21 of whom had been received under its care during the year. Reports were received from the theological seminaries at New Brunswick, N. J., Holland, Mich., and Arcot, India, from Hope College, Holland, Mich., and from the Northwestern Classical Academy.

The receipts for the Widows' fund had been \$10,314, while \$4,912 had been paid to annuitants. The amount of the fund was \$78,753. The principal of the Disabled Ministers' fund was \$55,076; its receipts \$10,622.

The Board of Domestic Missions had received \$31,658 in the Missionary Department and \$11,228 in the Building Fund Department. The Women's Executive Committee had received \$11,350, and this, with interest on invested funds, etc., added to the other items, made the total amount received for domestic mission work \$64,603. The missionary work is classified in the report as done in the eastern and the western fields. Together these fields returned 124 missions, 92 ministers, 5,160 families, and 7,798 church members, with 690 received during the year on confession, 10,803 persons enrolled in Sunday-schools, and \$35,994 contributed by the mission churches.

The Board of Foreign Missions had received, in contributions and legacies, \$117,090. The Woman's Board had received \$28,517. The Endowment fund of the theological seminary in India, paid and promised, amounted to \$57,098, of which \$49,575 had been paid in. The missions are in India (classis of Arcot), China (classis of Amoy), and Japan. The mission in India comprised 8 stations, 98 out-stations, 1,397 families, 1,690 communicants, 1,916 baptized children, and 111 schools with 3,566 pupils. In the Chinese mission were recorded 886 members in the Reformed Churches, 19 in the native Hakka mission, and 888 in the English Presbyterian mission, making a total of 1,763 members. The Japanese missions are incorporated with the United Church of Christ in Japan, which includes 5 presbyteries and 10,194 members. The report of the General Synod's Committee on Missions expressed regret that the proposed union of the United Church of Japan with the Congregational mission has as yet failed of consummation, but noted with pleasure the accession of the Cumberland Presbyterian mission to the Council of Missions, bringing with it 14 missionaries, 9 churches, and 604 communicants to the United Church; and mentioned the prospect of a union of the Presbyterian and Reformed Churches in India, as foreshadowed in the report of a committee on that subject to the Presbyterian Alliance of India. The Board of Missions had not seen its way clear to open a mission among Arabic-speaking people, as the General Synod had proposed to have done, but such a mission had been independently established by private subscriptions, and two young men from the New Brunswick Theological Seminary had gone out to engage in it. The remonstrances addressed by this and other missionary boards and religious bodies to the United States Senate against the bill for the exclusion of Chinese from the country had been followed by the defeat of the bill. The hope was expressed that further attempts to enact unfriendly legislation, which might imperil missionary interests in China, would be opposed and defeated by Christian Senators and Representatives. The mission at Arcot, India, was congratulated by the General Synod on having graduated its first class in the theological seminary.

The General Synod met at Asbury Park, N. J., June 4. The Rev. James Romeyn Berry, D. D., was chosen president. The special committee which had been appointed by the General Synod of 1887 on union of the Reformed Churches reported as the result of its negotiations with a similar committee of the General

Synod of the Reformed Church in the United States, that—

After considering the subject in all its bearings the committee finally concluded to recommend what may be designated a federal union of our two Reformed Churches in a new judicatory, composed of delegates from each of the churches, and clothed with such powers as might be designated in the act of union. This supreme judicatory should be so constituted as to give due representation, but not undue predominance, to either of the heretofore separate denominations, should have ultimate authority in matters pertaining to the establishment of new missions, domestic and foreign, the establishment of new educational institutions of the superior grades, and the several interests of religious publications, but not to interfere authoritatively with existing missions, educational institutions or publications until, or unless, freely committed to it by those under whose control they now exist. It might have power to advise as to combinations and other modifications of existing missions or educational institutions, etc., and further might consider, advise, and recommend in whatever matter it might judge to be for the welfare and advancement of the Redeemer's kingdom; but should exercise authority only in matters expressly committed to it by the constitution by which it would be created, or freely surrendered to it by the constituent denominations in the union.

Such a federal organic union would leave room for, and perhaps invite to membership in it, other Presbyterian Reformed churches now one with us in faith and order, thus looking forward to one national, and perhaps international, Reformed Church, including all of like faith and order.

If this suggestion and general plan are adopted by both General Synods, it will be necessary, of course, to appoint, each one, a commission to elaborate and prepare it for presentation to the two churches as soon as may be practicable.

The report was approved, and, with the report of the joint committee and the other documents relating to the negotiations, was referred to a special committee, with instructions to prepare and present to the next General Synod a plan of federal union, in which the autonomy, creed, *cultus*, and property of both churches shall be kept intact, and this branch shall have its just and proper representation in the government of the united church. The pastors and consistories were reminded in the resolutions on systematic benevolence of the duty of giving opportunities annually to the congregations to contribute to each and every object recommended by the General Synod to the Church; and the consistories to adopt some systematic plan whereby such opportunities should be given. Ministers, consistories, and members were urged to withhold patronage from all modes of Sabbath violation and to take a decided stand in support of a holy Sabbath; sympathy was expressed with the American Sabbath Union; and ministers were requested to preach often on Sabbath observance, and to see especially that children were instructed on the subject. The testimony of the Synod was given out against "the organized liquor traffic of the nation," and petitions were ordered sent to the Governor of Louisiana against legalization of the lottery and to the Governor of New Jersey against a bill to legalize "gambling on the race track."

II. Reformed Church in the United States.

—The statistical reports of this Church, made to the General Synod in June, give the following numbers: Of synods, 8; of classes, 55; of min-

isters, 835; of congregations, 1,554; of members, 200,500; of Sunday-schools, 1,513, with 138,616 pupils; of students for the ministry, 285; amount of benevolent contributions during the past three years, \$479,625; of contributions for congregational purposes, \$2,580,945.

The receipts of the Board of Home Missions for three years had been \$111,640. One hundred and fifteen missions were returned, with 10,334 members, and 151 Sunday-schools, with 11,908 pupils. This board takes the place of two synodical boards and part of a third, which have consolidated their mission enterprises with it, but there still exist three separate synodical boards.

The Board of Foreign Missions had received \$48,043 during the past three years. Its mission, in Japan, returned 1,656 members, 218 of whom had been added during the last year; a girls' school, with 40 pupils, and a theological school, with 26 students, both at Sendai. The Woman's Board had raised \$12,880 in three years for general missions, besides about three times that sum for home purposes.

The tenth triennial General Synod met at Lebanon, Pa., May 28. The Rev. J. H. A. Bomberger, D. D., was chosen president.

The Committee on Union with the Reformed Church in America reported that while it had been desired to form a closer union of the two denominations, with one General Synod instead of two, forming one denomination by consolidating the two, it was found that this could not be accepted by the Reformed Church in America, mainly on account of the character of its General Synod, which was invested with greater powers than the General Synod of the Reformed Church in the United States. The committee, therefore, joined in recommending the nearest approach to such a union that seemed practicable under the circumstances. The Synod declared by resolution that while it would prefer a closer organic union, yet as this seemed impracticable at the present time, it approved the plan of federal union (see above). A commission was appointed to co-operate with a similar commission of the Reformed Church in America; and the officers of the General Synod were authorized to call a special meeting of that body, at the request of the commission, when its work should be completed, for the purpose of acting on its report. On the hearing of the report of the delegate who had visited the Alliance of the Reformed Churches in Germany, a motion was made to enter into closer relations with that body. A contribution was made for its newly founded seminary in Berlin; a committee was appointed to correspond with Reformed bodies and with representative men in Germany and Switzerland with a view to aiding the Church there; the Board of Missions was authorized, in case the committee should ask it, to send a delegate to Europe to further this interest; and the officers of the Synod were empowered to send delegates, if without expense to the Synod, to the Reformed Alliance of Germany. An overture was adopted for presentation to the General Council of the Presbyterian Alliance, to be held in Toronto, Ontario, in 1892, asking it to take into consideration the adjustment of the home-mission interests of the Presbyterian and Reformed

Churches in the United States, as it has done in the unification of the mission churches in heathen lands, so that some arrangement may be entered into by which there may be less expense, less interference, and greater efficiency in the mission work. The overture asks the Council, through its committees, to enter into correspondence with the various home missionary boards of the churches mentioned, asking co-operation and inviting suggestions, from which a plan may be formulated to be approved by the boards and submitted to the succeeding General Council, and then to the highest judicatories of the several churches. The following problems were specified as needing adjustment:

1. A plan by which in the cities churches of the same language shall not be located within a certain distance of each other lest they interfere with one another;
2. A plan of agreement by which another of the denominations may not come into a city unless the city exceeds a certain size, thus giving room for another congregation of the Presbyterian or Reformed faith, or unless the original congregation or congregations have attained to a certain numerical or financial strength;
3. A plan of agreement by which, in case of a division in any Presbyterian or Reformed congregation, another allied denomination may not organize a second new congregation from the seceders unless the old congregation has attained a certain numerical or financial strength, or unless agreed to by the presbytery or classes of the old as well as the new denomination;
4. A plan of agreement by which neighboring weak congregations, whether in large cities or sparse country districts, but of different denominations, may be united or supplied and thus made strong and self-supporting.

An appropriation was made for a mission to immigrants at Castle Garden, New York. The Home Mission Board was advised to begin a mission among the Hungarians in the coke regions about Connellsville, Pa. The Brotherhood of Andrew and Philip, a social organization of the young men of the Church for religious work, was approved. The work of the American Sabbath Union was commended, and delegates were appointed to represent the General Synod in its organization.

The joint commission of the two General Synods met at Catskill, N. Y., Sept. 2, and unanimously agreed upon a constitution for the proposed Federal Synod of the Reformed Churches, to consist of twenty ministers and twenty elders for each denomination, and to meet annually, the powers of which were carefully defined and limited. This constitution is to be submitted to both General Synods for their approval.

RHODE ISLAND, a New England State, one of the original thirteen, ratified the Constitution May 29, 1790; area, 1,250 square miles. The population, according to each decennial census, was 68,825 in 1790; 69,122 in 1800; 76,931 in 1810; 83,015 in 1820; 97,199 in 1830; 108,830 in 1840; 147,545 in 1850; 174,620 in 1860; 217,333 in 1870; 276,531 in 1880; and 345,506 in 1890. Capitals, Newport and Providence.

Government.—The following were the State officers during the year: Governor, Herbert W. Ladd, Republican, succeeded by John W. Davis, Democrat; Lieutenant-Governor, Daniel G. Littlefield, succeeded by William T. C. Wardwell; Secretary of State, Samuel H. Cross, succeeded by Edwin D. McGuinness; General Treasurer,

Samuel Clark, succeeded by John G. Perry; State Auditor and Insurance Commissioner, William C. Townsend, succeeded by Elisha W. Bucklin; Attorney-General, Ziba O. Slocum; Railroad Commissioner, E. L. Freeman; Commissioner of Public Schools, Thomas B. Stockwell; Chief Justice of the Supreme Court, Thomas Durfee; Associate Justices, Pardon E. Tillinghast, Charles Matteson, John H. Stiness, and George A. Wilbur.

Population.—The following table shows the population of the State by counties, as determined by the national census of this year, compared with the population of 1880:

COUNTIES.	1880.	1890.	Increase.
Bristol.....	11,394	11,425	31
Kent.....	20,988	26,754	6,766
Newport.....	24,180	28,562	4,382
Providence.....	197,574	236,128	57,554
Washington.....	22,495	23,649	1,154
Total.....	276,531	345,506	68,975

Finances.—There was no change during the year in the bonded State debt, which remained at \$1,283,000, but the sinking funds increased from \$860,016.76 on Jan. 1 to \$951,703.95 on Dec. 31, thereby reducing the net State indebtedness from \$422,983.24 to \$331,296.05 during the year. The summary of the operations of the State treasury is as follows: Balance on Jan. 1, 1890, \$179,167.73; receipts for the year, \$1,075,963.65; expenditures, \$1,169,602.81; balance on Dec. 31, 1890, \$85,528.57. There was an increase of \$22,414.76 in the receipts over the total of the previous year, due entirely to increased returns from liquor licenses. At the same time the expenditures, on account of large appropriations, were greater than in 1889 by about \$125,000, causing a net reduction in the treasury balance of about \$100,000.

Legislative Session.—The adjourned session of the General Assembly began at Providence on Jan. 21, and continued through May 2. The Australian ballot law was amended so that ballots may be printed and distributed at public expense, under the provisions of the law, at any adjourned or second election for members of the General Assembly. The Governor was authorized to appoint a commission of three to revise and codify the general statutes, and to report the result of its labors to the General Assembly within three years. The same commission was directed to report a plan for changing the judicial system of the State so as to simplify and equalize the duties of the State courts. Other acts of the session were as follow:

Providing a penalty for fraudulently placing ballots in, or abstracting them from, any ballot-box.

Appropriating \$75,000 for completing the Soldiers' Home.

Establishing as legal holidays the first Wednesday of April in each year (State election day) and the Tuesday next after the first Monday in November, 1890, and in every second year thereafter (national election day).

Creating a board of State valuation to report to the January session of 1891 a revaluation of the taxable property of the towns and cities of the State, which, if approved by the General Assembly, shall be used by the general Treasurer as a basis for apportioning the State tax.

Increasing the salary of the Governor to \$5,000; of

the Chief Justice of the Supreme Court to \$5,500; of Associate Justices to \$5,000; and of the Attorney-General to \$3,500.

Authorizing the city of Providence to borrow \$300,000 and issue its notes and bonds therefor, the money to be expended on the city highways.

Authorizing the city of Pawtucket to condemn land and buildings for a city hall, and to issue \$200,000 of bonds to raise money for it.

Providing that after Dec. 1, 1891, no method of heating passenger, mail, or baggage cars shall be used, unless it has the written approval of the Railroad Commissioner.

The first session of the new General Assembly elected in April began at Newport on May 27. The returns for State officers being opened and counted, and no election declared, both Houses in joint session elected John W. Davis to be Governor; William T. C. Wardwell, Lieutenant-Governor; Edwin D. McGuinness, Secretary of State; John G. Perry, General Treasurer; and Ziba O. Slocum, Attorney-General. On May 28 Elisha W. Bucklin was elected State Auditor.

The following acts were passed at this session:

To amend the game laws.

Authorizing the city of Providence to appropriate \$200,000 to purchase a site for a State house.

Authorizing the city of Woonsocket to build a city hall and lay out and establish one or more public parks and to borrow \$100,000 therefor.

On May 30 both Houses adjourned to meet at Providence in January following. This adjournment was forced by the Republican majority in the Senate against the wishes of the Democrats, who were in control of the Lower House. Pursuant to the Governor's proclamation, the General Assembly again convened on June 17, at Providence. The bill extending the Australian ballot law to cities became a law at this session. It provides that the preparation and distribution of official ballots for city elections shall be in charge of the city clerk. Its provisions became effective on July 1. Several acts of incorporation and some minor acts were passed, after which both Houses adjourned on June 20, to the third Tuesday in January, 1891.

Education.—For the school year ending April 30, 1889, the Commissioner of Public Schools reports the following statistics: Pupils enrolled, 51,895; average attendance, 33,827; average school year, nine months, nine days; male teachers, 171; female teachers, 1,196; average monthly wages—male teachers \$87.06, female teachers \$45.20; paid for teachers' wages, \$534,079.72; total receipts for school purposes during the year, \$978,962.47; total expenditures for school purposes, \$907,286.85; number of school-houses, 474; value of school property, \$2,744,408. There were 43 evening schools conducted during the year for an average of 13½ weeks, in which 5,870 pupils were enrolled, the average attendance being 2,089. There were 110 male and 250 female teachers employed in these schools. The annual census of children of school age, between five and fifteen years, taken in January, 1889, showed 43,098 attending public schools, 7,974 attending Catholic schools, 1,777 attending select schools, and 12,056 not attending school. There was an attendance of 180 at the Normal School for the year ending in June, 1888, and 24 were graduated.

Charities.—At the State School for the Deaf there were 31 pupils during 1889, of whom 30 re-

mained on Jan. 1, 1890. The State Home and School cared for 150 children during the same year, of whom 116 remained on Jan. 1, 1890. The cost of maintenance for the year was \$15,307.91.

Soldiers' Home.—The new Soldiers' Home at Bristol is rapidly approaching completion, and will be ready for occupation in the spring or early summer of 1891. The appropriation of \$125,000 made by the Legislature this year will probably be sufficient to complete the undertaking. The board will need an annual appropriation approximating \$15,000 for the maintenance of the home.

At the close of the year there were 57 old soldiers at the temporary home at Wickford, who are supported by the State. The State also appropriates \$20,000 annually for distribution among needy soldiers and their families outside of the home.

Railroads.—There are 15 railroad corporations in the State, with 269 miles of track and a capital stock of \$49,269,550. Their total indebtedness is \$35,659,789.35. Their total receipts for 1890 were \$18,916,128.77; expenditures, \$16,218,564.60; net earnings, \$2,697,564.17. There are 5 street railways, 3 operated by horses, 1 by electric motors, and 1 by cable. They have 77½ miles of track and a paid-up capital of \$2,122,100. Their total debt is \$173,651.50. The receipts for 1890 were \$1,002,131.89; expenditures, \$814,493.72; and net earnings, \$187,638.17.

Savings Banks.—There are 38 institutions for savings in the State, having 131,652 depositors, of whom 16,582 have \$500 and under \$1,000 on deposit, and 18,934 \$1,000 and upward. The average amount deposited is \$483.99.

Political.—In the political canvass of this year, as in 1889, there were four parties in the field. The first State ticket was nominated by the Union Reform party in convention at Providence on Feb. 25. The party was composed chiefly of those Prohibition Republicans who deserted their party in 1889 on account of its changed attitude in favoring the repeal of the prohibitory constitutional amendment, and formed the Law Enforcement party of that year. The issue then was on the question whether the amendment should be repealed. This year after the repeal had been carried, the same elements united under a new name with the object, similar to that of the third-party Prohibitionists, of striving for the restoration of prohibition. Their nominees were as follow: For Governor, Arnold B. Chace; for Lieutenant-Governor, Franklin Metcalf; for Secretary of State, Harmon S. Babcock; for Treasurer, Edward A. Green, succeeded upon the ticket by Charles E. Carpenter. The nomination of a candidate for Attorney-General was left to the State Central Committee, which adopted the Republican candidate, Horatio Rogers. The platform arraigns the two leading political parties of the State for their "subserviency to the rum power," condemns high license, and further declares as follows:

We solemnly protest against the false and pernicious doctrine that laws for the suppression of drinking saloons are incapable of enforcement.

We deny the validity of any excuse for fraud in elections.

We favor the maintenance of the Ballot Reform

law already adopted in this State, without impairment of its essential features.

We favor the appointment of women as well as men to the boards to which is intrusted the control of public charitable, correctional and educational institutions.

On Feb. 27 the State convention of the Prohibition party was held at Providence, and the following ticket was nominated: For Governor, John H. Larry; for Lieutenant-Governor, Joshua C. Brown; for Secretary of State, John W. Money; for Treasurer, Jason P. Hazard; for Attorney-General, John T. Blodgett. The platform says:

We claim that the call for higher license is but a confession of the failure of the license system, and we believe that the evils of license are in proportion to the size of the fee and the extent of the monopoly that governs the traffic.

The Democratic State Convention was held at Providence on March 5. Its nominees were John W. Davis for Governor, William T. C. Wardwell for Lieutenant-Governor, Edwin D. McGuinness for Secretary of State, John G. Perry for Treasurer, and Ziba O. Stocum for Attorney-General. The platform makes the following declarations touch upon State issues:

We arraign the Republican party of this State for its hostility to ballot reform in refusing in the Republican Senate so to apply it that the masses may avail themselves of its provisions, and we recognize in this hostility the same distrust of the people evinced in its opposition to manhood suffrage and in the long series of acts of Republican legislators throwing difficulties in the way of the registry voter.

We demand a revision of the Constitution of this State to adapt our fundamental law to the needs of the people.

On March 13 the Republican State Convention met at Providence and renominated Gov. Ladd, Lieut.-Gov. Littlefield, Secretary of State Cross, and Treasurer Clark. For Attorney-General the nominee was Horatio Rogers, who held that office in 1888. The platform contains the following:

We believe that the hours of voting, already longer here than elsewhere, should not be extended into the night, and we would secure for every man the opportunity of casting an honest and intelligent ballot by decreasing so far as possible the number of days in which elections are held—by making election day a compulsory holiday—and by prohibiting under severe penalties the selling of liquor on that day.

For the first time in the history of our State, a political party has attempted to force the retirement of an officer obnoxious to some of its members, by withdrawing appropriations for State purposes. Bills against the State which have been approved remain unpaid, our credit is in danger of becoming impaired, State officials are refused their overdue salaries, and public disgrace is incurred in order to enable the Democratic party to manufacture political capital.

At the election on April 2, there was no choice by the people, as none of the candidates received a majority of the votes cast. For Governor the vote was: Davis, 20,548; Ladd, 18,988; Larry, 1,820; and Chace, 752. For Lieutenant-Governor, Wardwell received 19,512 votes; Littlefield, 18,789; Brown, 1,818; and Metcalf, 701. Under the terms of the Constitution, the choice of State officers devolved upon the Legislature, which was chosen at the same election. In this body, after second elections had been held in several districts, the Democrats had a majority on joint

ballot, the Senate standing Republicans 23, Democrats 14, and the House, Republicans 29, Democrats 43. The Democratic candidates were accordingly elected in May.

At the November election for members of Congress, Oscar Lapham, Democrat, was elected in the 1st District, while in the 2d there was no choice by the people, and a new election will be ordered by the Legislature in 1891.

ROMAN CATHOLIC CHURCH. The year opened badly for the prospects of peace with the Church at the capital of Catholicity itself, for Crispi had served notice upon the Vatican that he had conceived a measure by which all the property of charitable confraternities in Italy would be assumed by the Government. The confraternities thus affected would number 8,487, with a capital value of \$22,290,000. As a complement to this policy of sequestration, the Church of the Pieta was taken possession of by the Roman civic authorities and sold to a German brewing company for the purposes of a beer garden. Another church associated with the memories of Michael Angelo was turned into a theatre and dance hall, and, with the prospect of 26 more to share a similar fate, Pope Leo XIII sent in his vigorous protest to King Humbert, and called upon Christendom for sympathy in his contest with irreligion and sacrilege, as thus illustrated. On Jan. 10 an encyclical appeared on "The Duties of Christians in the State." In it the pontiff referred to the disrespect for authority, the lapse of veneration for things sacred, the growth of immoral ideas, and the various unchristian forces that were working everywhere for the overthrow of society as constituted by our divine Lord and maintained by his Church. He exhorted the citizens to throw around the family, as the well-spring of good government, every safeguard that could keep it pure, and, by the instruction of the young in the principles of religion as well as in the rudiments of commercial education, to prepare them for the temptations that threaten on every hand. He urged an exercise of active opposition to divorce and its kindred evils, and commended caution in the acceptance of plausible theories for the amelioration of social injustices. At the same time he foreshadowed a pronouncement of the Church upon the question of socialism that would define more clearly the path of duty. Cardinal Pecci, elder brother of the Pope, died Feb. 8, and so keenly is "the virtual prisoner of the Vatican" made to feel his helplessness that, devotedly attached to his illustrious brother as he was, the Pope had to deny himself the consolation of being present at the final hour. The death of Cardinal Pecci was made the subject of another of those beautiful Latin poems for which Leo XIII, with all his cares, finds inspiration. March 2, the eightieth birthday of the Pope, was eventful for an address by him to the assembled cardinals. In it he reviewed all the sufferings and labors that had been undergone during the eleven years of his reign. "Even greater trials are ahead," said he; "but there must be great triumphs, too, in store as amends to the Church that has withstood so much." In the same month there was received at the Vatican a letter from the German Emperor, and the ensuing correspondence is indicative not only of more cordial relations be-

tween his empire and the Papacy, but of the hearty sympathy of Pope Leo with the efforts of William to better conditions among the masses.

In April, Leo XIII spoke on the industrial question in a letter to Archbishop Krementz, of Cologne, which was made public simultaneously with the universal labor demonstration of May 1.

Catholic Congresses.—During the year great congresses assembled at Coblenz, Lille, Antwerp, Liège, Saragossa, and Lisbon. They were all marked by an unmistakable desire to grapple with the problems of the hour and to bring the masses in close sympathy with the Church as their defender. Resolutions favoring shorter hours that more time for improvement and enjoyment may be had; the withdrawal of child and female labor from the mines and more exhausting works; the investigation of sanitary conditions, the protection of life and limb, the improvement of land tenures, and other measures of a like tendency were passed. Messages of condolence with the Pope, and a demand for a restoration of the temporal power of the Church, went forth from all.

The Sacred College.—At the Consistory of June 23, the Pope created four new cardinals, viz.: Vincenzo Vannutelli, Nuncio at Lisbon, born at Genazzo, diocese of Palestrina, Dec. 5, 1836; Sebastiano Galeati, Archbishop of Ravenna, born at Imola, Feb. 8, 1822; Caspar Mermillod, Bishop of Lausanne and Geneva, born at Caronge, Sept. 22, 1842; and Albin Dunajewski, Bishop of Krakau, born at Stanislawow, March 1, 1817.

The College sustained four deaths: On Feb. 8, Joseph Pecci, brother of Pope Leo XIII, born at Carpineto, Dec. 13, 1807. He was a most ardent promoter of the St. Thomas School of Philosophy. Appointed to a professorship in the Roman University by Pius IX in 1860, he aided in the preparatory labors of the Vatican Council, and in 1870 resigned his office rather than take the oath prescribed by the Italian Government upon the conquest of Rome. He devoted himself to science until the election of his brother as Pope. At the urgent request of the Sacred College, he was elevated to the dignity of Cardinal, May 12, 1879, and was also made Prefect of the Congregation of Studies and President of the Academy of St. Thomas.

Cardinal Lagi Maria Pallotti, who died July 31, was born March 30, 1829, at Albano, Italy. He was distinguished for his sanctity and learning from boyhood. He was made bishop by Pius IX and archbishop by Leo XIII, of the See of Montepulciano, and raised to the cardinalate in 1887.

Cardinal John Henry Newman died Aug. 11. Born in England Feb. 21, 1801, he rose to eminence in the established Church, and while professor at Oxford instituted a reform movement that ended in his conversion to, and reception into the Catholic Church on Oct. 8, 1845, an event described long after by Lord Beaconsfield as "a blow dealt to the Anglican Church, under which it still reels." He was made cardinal in 1879. Cardinal Manning says of him: "No living man has so changed the religious thought of England. His withdrawal closes a chapter which stands alone in the religious life of this century. In the Church he was the cen-

ter of innumerable souls drawn to him as teacher, guide, and comforter, through long years, and especially in the more than forty years of his Catholic life." (See NEWMAN, JOHN HENRY.)

Cardinal Joseph Hergenroether died Oct. 3 at the Convent of Meheran, near Bregeuz. Born at Würzburg, Bavaria, Sept. 15, 1824, he has made a record as one of the ablest canonists and historians of the Church. He was the most powerful opponent of Döllinger, and his Histories of the Church and the Pontiffs are the most complete of recent times. He had been thirty years Professor of Canon Law and Church History at the Würzburg University when made cardinal, May 12, 1879, by Pope Leo XIII, and assigned to labor in the Vatican Library among the pontifical archives.

At the close of 1890 there were 64 members of the Sacred College, there being 70 members in all when the membership is complete.

The Pope on Slavery.—By decree, Nov. 20, the Pope ordered a collection throughout the world, on the feast of the Epiphany, each year, for the benefit of the negro missions in Africa. "The Catholic Church," he begins, "has always discountenanced slavery since Christ came on earth to teach men that a fraternal bond held them in unity. The pontiffs have spoken times without number. Nevertheless, it is our duty to continue that splendid tradition." He recalls his congratulations to Dom Pedro on the emancipation in Brazil. Then, he says, he was moved by the afflictions of those helpless ones in South America; now the miseries of Africa call for redress. His nuncios tell him that 40,000 unhappy creatures are carried off by the slave-hunter yearly. Longing to do something for these, he commissioned Cardinal Lavigerie to rouse the conscience of the nations. The result was those conferences and the Convention for the Suppression of the Slave Trade, signed in Brussels, in June, by the representatives of seventeen powers, proving that fit and sufficient pressure will be brought to bear by them against these troubles and griefs. May prosperity bless the rulers who have set this noble example!

Besides the freedom they need, the decree goes on, there is another gift denied them which it is necessary to bring them—the blessings of the Gospel. When they are brought the old slavery disappears like the ghost of the old pagan night. There are many who have sacrificed much in behalf of this ideal, many who have spent their sweat and their blood for it. But more still are ready to follow; more still are needed: *Mensis quidem multa, operarii autem pauci*. So great a work, however, requires great expense. There are the heavy journeys and the means of livelihood, the raising of churches, the support of pastors. The Pope himself would like to do all, but he is prevented by his difficulties. Therefore, he appeals to the whole Catholic world. The feast of the Epiphany is chosen for the collections, because on that day Christ made himself known to the Gentiles, and this has for its object the preaching of Christ to the benighted.

The two remaining documents of importance were the blessing of the projects to honor Columbus in his native Genoa, in Spain, in Buenos Ayres, and elsewhere, on the completion of the fourth century of his discovery of the New

World, and the encyclical to the people of Italy, in which the deplorable condition of that nation is pictured, and in which the faithful are abjured to resist the secret societies which openly boast of directing government. These societies, says the sovereign pontiff, are responsible for the evils which beset Italy, and have no other object than the overthrow of all religion and the full establishment of atheism.

The French Church and the Republic.—At a banquet in Algiers, Nov. 2, Cardinal Lavergne inaugurated an entirely new departure in the Catholic attitude toward the republic. Of the 38,000,000 people in France, 34,000,000 were baptized in the Catholic Church, yet, owing to the compact organization of the comparatively small infidel element, it has been able to control the republic prejudicially to the religion of the majority, driven out religious orders, laicized the schools, and forced seminarists to serve in the army. The identification of the royalist cause with Boulanger deprived it of all respect, and Cardinal Lavergne took occasion to institute, with the approval of the Pope, a new political programme on that date by commending loyalty to "the form of government which the will of the people has distinctly confirmed." Since then the Catholics of France have been organizing on the cardinal's platform: "*Hic Rhodus, hic salta!*" Sincerest love for our Church as well as for our country impels us to proclaim ourselves loyal supporters of the republican form of government in France." They propose, they say, to make the republic, in spite of atheistic republicans, a government in the true sense of the word. The Cardinal Archbishop of Paris hails the new era by, for the first time, holding special services upon the opening of Parliament to ask God's blessing upon its labors.

The United States.—Three episcopal jubilees were celebrated during the year—those of Archbishop Feehan, of Chicago, Oct. 30; Bishop Loughlin, of Brooklyn, Oct. 17; Bishop DeGoesbriand, Oct. 30. The golden jubilee of the founding of the Little Sisters of the Poor was honored in September. The golden jubilee of St. Matthew's Church, Washington, was celebrated Sept. 21. The Carmelite Nuns centenary occurred Oct. 11.

The School Question.—A most valuable contribution to the subject of a *modus vivendi* between the state and the parochial schools was the address of Archbishop Ireland before the National Education Convention, St. Paul, July 10. In New York, during the year, the State Board of Regents passed a measure incorporating Catholic schools into the State university system by the performance of stipulated agreements. In Boston, Judge Fallon, after twenty years' service on the Public School Board, resigned June 24, because of the decision by a vote of 17 to 3 to retain certain text-books objectionable to Catholics. The opening of the first American Catholic high school at Philadelphia, Sept. 5, the discourses at the Catholic university, Washington, and the presentation of \$500,000 for a Catholic seminary to Archbishop Ireland by James J. Hill, a Protestant gentleman of St. Paul, were other interesting events.

The committee appointed at Baltimore to settle upon the date and place of the next Catholic

congress met in Boston, Oct. 25, and fixed Chicago, 1893, as the place and time.

The case of Dr. Burtzell, a priest of the archdiocese of New York, who refused to abide by the decision of Archbishop Corrigan, recalled the McGlynn episode during the summer, but upon the Propaganda deciding adversely to his plea, Dr. Burtzell submitted.

Three eminent laymen died during the year: Lawrence Kehoe, Catholic publisher, Feb. 27; Henry L. Hognet, founder of the Catholic Protector, New York, May 9; and John Boyle O'Reilly, poet-editor, Aug. 10.

The wounding of Rev. Francis M. Craft, Catholic Indian missionary, in the battle of Wounded Knee Creek, Dec. 29, and the burning of the Catholic Indian mission at Pine Ridge, were the closing events of the year.

The bi-centenary of Blessed Margaret Mary was celebrated from the 17th to the 25th of November.

The Greek Conference at Wilkesbarre, Pa., Oct. 29, petitioned the Holy See to appoint a vicar-general with authority over the 150,000 Greek Catholics in the United States.

Religious Necrology, United States and Canada.—During the year 1 archbishop, 4 bishops, 1 abbot, 174 priests, and 112 members of male and female orders died in the United States and Canada. This exceedingly large list is attributed to severity of the strain occasioned by exposure during the prevalence of the epidemic "La Grippe." Most Rev. Michael Heiss, Archbishop of Milwaukee, died March 26. He was born in Bavaria, 1818, and as secretary to Archbishop Henni did much toward building up the Church in Wisconsin. He was the first bishop of the diocese of La Crosse (1868), and first president and founder of St. Francis Seminary, Milwaukee. Pius IX made him a member of one of the four great commissions at the Vatican Council. He was author of several theological works. In recognition of his great services he was consecrated Archbishop of Milwaukee April 23, 1883.

Right Rev. Caspar H. Burgess, who died at Kalamazoo, Mich., May 3, had served seventeen years as the second Bishop of Detroit. He was born in Germany, 1826, and voluntarily relinquished his see in 1887 on account of age. He was one of the pioneers in the Catholic parochial-school movement.

Right Rev. James O'Connor, first Bishop of Omaha, died May 27. He was born in Cork, Ireland, Dec. 10, 1823, and ordained in Rome. He had been president of St. Michael's Seminary, Pittsburg, Pa., and of St. Charles's Seminary, near Philadelphia, and was the founder of the Catholic Indian mission schools, of which the new Order of the Blessed Sacrament, just formed by Miss Kate Drexel, is to have charge.

Right Rev. Henry Joseph Farand, O. M. I., native of France, aged sixty-seven, died at St. Boniface, Manitoba, in September.

Right Rev. Louis Joseph D'Herbomez, O. M. I., died June 3. He was one of the great Northwest Indian missionaries, evangelizing the tribes on the Yakima river and Puget Sound in 1850, establishing the missions on Vancouver and in the interior of British Columbia. He was consecrated Vicar Apostolic of the Mainland of British Columbia in 1864. He was born in 1822.

Right Rev. M. Benedict, native of France, aged seventy, abbot of the Trappists, the severest order in the Church, died at the monastery, Gethsemane, Ky., Aug. 10.

Among the more prominent of the deceased clergy and religious were: Right, Rev. Mgr. Arthur J. Donnelly, Vicar-General of New York; Very Rev. William Keegan, Vicar-General of Brooklyn; Very Rev. James T. McManus, Vicar-General of Rochester; Very Rev. George L. Willard, Vicar-General at Sioux Falls, Dakota; Very Rev. Louis Fureken, C. R., Superior Provincial Congregation of the Resurrection, St. Jerome's College, Berlin, Ontario; Very Rev. Joseph Strub, Provincial Order of the Holy Ghost, Pittsburg, Pa.; Rev. Innocent Wapallhorst, O. S. F., author "Compendium Liturgy of the Catholic Church"; Mother Monica, Sisters of St. Joseph, Philadelphia, one of the ten sisters who saw service in the civil war; Sister Cyril and Sister Mary Joseph, the last of the five who founded the Order of Charity B. V. M. in the United States, 1838; Mother Mary Joseph, the pioneer of the Nuns of the Presentation in New York; and Brother Vincent, C. S. P., one of the four French brothers who came here in 1842 with Very Rev. Fr. Sorin and founded the University of Notre Dame.

Canada.—The school question assumed grave proportions in Manitoba by the abolition of the Catholic separate schools and of the French language. The case was appealed, and the courts sustained the law. Another appeal has been taken to the Dominion Parliament. During July and August nearly 100,000 pilgrims visited the shrine of St. Anne de Beaupré. The third convention of French Acadians, presided over by Judge Landry, 6,000 delegates present, met Aug. 13 and 14, at Church Point, N. S., and received the Pope's blessing. Erection of monument to Catherine Tegakwita, the blessed Indian Iroquois, at Caughnawaga, Aug. 6. March 29 the Roman Congregation of Rites approved the canonical introduction of the cause of Mne. D'Youville, foundress of the Gray Nuns, Montreal, for beatification.

Japan.—The first Constitutional Legislature of Japan met June 29, and ten Catholics took seats in the House of Representatives. About the same time the Society for the Propagation of the Faith at Lyons, France, received a letter signed by the Bishops of Northern, Eastern, and Central Japan and of Corea, announcing that their first synod had been held at Nagasaki.

The Passion Play.—Opening at Ober-Ammergau on May 18, it was played for the last time this century, twice weekly, until October, each performance being witnessed by thousands gathered from the whole globe.

England.—The jubilee of Cardinal Manning, June 8, was honored by magnificent testimonials of popular regard, both national and international, and the question of precedence upon public occasions presided over by the Prince of Wales, was settled by the decision of the prince that the cardinal shall rank next to himself and above all the peers. In the addresses the advance of Catholicism in England was reviewed, and the present Catholic population of the empire estimated at 10,000,000. The annual Conference of the Catholic Truth Society was opened in Birmingham, June 30, every diocese in England

sending delegates. The death of Cardinal Newman and the introduction in Parliament of "The Religious Disabilities Removal Bill," by Gladstone, were the other important events of the year 1890.

Germany.—The elections of Feb. 20 returned Windthorst's (Catholic) Center Party to the balance of power in the empire, and virtually caused the retirement of Bismarck. Minister Lutz, of Bavaria, the anti-Catholic persecutor of religious orders, repented a few months before his death.

Austria-Hungary.—Cardinal Simor, Primate of Hungary, on May 20 asked instructions from Rome on the ordinance of the Minister of Religious Affairs on the question of baptisms. Cardinal Kompolla answered that the Hungarian bishops could not sanction the law by which the Catholic clergy were ordered to report to clergymen of Protestant denominations the baptisms of children of mixed marriages. The Holy Father severely censured those bishops who had tolerated it, and the matter is still in course of dispute.

Ireland.—Early in the year the Irish hierarchy moved for an adjustment of the school system that would not tear religious objects from the schoolroom walls, and also for a university that would place Catholics upon an equality with Protestants in the matter of higher education. The Centennial of Father Mathew, "the Apostle of Temperance," was celebrated in October by great demonstrations, the unveiling of Foley's statue in Dublin, and the taking of the pledge by 100,000 people. The hierarchy of Ireland opposed Parnell, the National leader, on the ground of admitted immorality in the case of Mrs. O'Shea, and as a test of strength in the Kilkenney election in December, the clerical candidate, John Pope Hennessy, was returned.

Norway.—After three hundred years' proscription Catholic missionaries have again lighted the sanctuary lamp, and Mgr. Fahlize reports much progress for 1890.

India.—The child-marriage system is to be abolished, principally through the opposition of Cardinal Manning. The remains of St. Francis Xavier, popularly known as "the apostle of the Indies," were exposed for the fourth time since 1842 at Goa, on Dec. 3, 1890, and the features were said to be still recognizable.

South America.—The Brazilian Republic has sent an envoy to the Vatican and guaranteed every Catholic right presented by the Catholic party in October. In Ecuador the temporary chapel that is to mark the spot of the future national temple to be erected 14,900 feet above the level of the sea in commemoration of the act consecrating the republic to the Sacred Heart, was inaugurated March 19 by Mgr. Macchi, apostolic delegate of Leo XIII.

In Africa.—The first 20 missionaries of Cardinal Lavigerie's advance guard in his crusade for the civilization of Africa, after first participating in the dedication of St. Louis's Cathedral, Carthage, on the feast of St. Louis, set out on their way to the interior.

ROUMANIA, a constitutional monarchy in eastern Europe. The reigning King is Carol I, born April 20, 1839, son of Prince Karl of Hohenzollern-Sigmaringen. He was elected Prince of Roumania in 1866, and was proclaimed King in

1881. The legislative authority is exercised by the Senate, consisting of 120 members, and the Chamber of Deputies, numbering 183, elected by the direct suffrage of the property-owning and intelligent classes and the indirect suffrage of the illiterate class.

Finances.—The receipts for the year ending with March, 1889, were 164,869,000 lei or francs, of which 27,800,000 lei were obtained by direct and 38,705,000 lei by indirect taxation, 42,250,000 lei were the produce of state monopolies and 23,301,000 lei of domains, and 12,750,000 lei were the earnings of public works. The total expenditures were 164,869,000 lei, the largest items being 36,417,134 lei for war, 21,713,975 lei for financial administration, 16,579,502 lei for public instruction, and 61,574,180 lei for the public debt. The capital of the debt on April 1, 1891, amounts to 891,206,041 lei, and the year's interest to 56,926,950 lei. In October, 1890, by means of a new 4-per-cent. loan, 230,960,000 lei of 6-per-cent. bonds were converted.

Commerce.—The total value of the imports in 1889 was 367,944,099 lei, as compared with 310,378,320 lei in 1888; the value of the exports was 274,167,146 lei, as compared with 256,788,642. The exports of cereals in 1889 were valued at 239,500,000 lei.

Communications.—The railroads, which all belong to the state, had in 1889 a total length of 2,543 kilometres, while 345 kilometres of extensions were in progress and 659 kilometres more were projected.

The post-office in 1889 handled 9,873,520 internal and 5,223,434 international letters, 3,294,970 postal cards, 6,252,164 papers and circulars, and 262,897 postal money orders.

The telegraph lines in 1889 were 5,307 kilometres long, with 13,181 kilometres of wire. The total number of telegrams for the year was 1,321,430. The revenue of the post-office and telegraphs was 5,200,297 lei, and the expenditure 4,012,191 lei.

The Army.—Every Roumanian is liable for service in the active army for three years from his twenty-first year. Those who are not drawn for the permanent army are enrolled in the territorial army for four years in the cavalry or five in the infantry. The peace effective in 1890 was 2,666 officers and 48,500 men, with 8,124 horses and 573 cannons. The war effective was 4 army corps of 32,000 each and a division in the Dobruja making about 150,000 men.

The frontier fortifications designed by Gen. Brialmont are completed on the Russian border at Gالاتز, and the armament and garrisons were expected to be in place in the spring of 1891. Of the 18 detached forts that are to defend Bucharest, 10 were also to be armed with Krupp guns before summer. These forts will protect an area of 40 square miles, so that the entire Roumanian army can be concentrated behind them. When they are finished the defensive works on the Austrian frontier will be begun. A fifth army corps for the district inclosed in the ring of forts around the capital has been decided on.

European Commission of the Danube.—The receipts of the international Danube Commission sitting at Gالاتز were 3,097,961 francs, and the expenses 2,097,929 francs in 1889; the funds accumulated amounted to 1,501,560 francs.

The number of steamers that cleared the Sulina mouth of the Danube was 1,668, of 1,423,632 tons. The total number of vessels was 1,870, of 1,473,345 tons, of which 842, of 1,000,773 tons, were British steamers; 240 were Greek steam and sailing craft, of 128,486 tons; 427, of 78,136 tons, were Turkish; and 109, of 77,062 tons, were Austrian vessels; next to which came the Italian and French, of 66,322 and 63,884 tons respectively. The exports of wheat from the Danubian ports in 1889 were 4,608,000 quarters, as compared with 8,509,000 in 1888; of rye, 1,458,000 quarters; of maize, 2,502,000 quarters; of barley, 1,553,000 quarters.

The Tariff Question.—The commercial treaties with Great Britain, Belgium, Germany, and the Netherlands, which expire in June, 1891, were renounced in the summer of 1890, preparatory to a rearrangement of commercial relations with foreign countries and a revision of the tariff on the principle of protection for home production, which is not afforded by the present conventional tariff of 1½ to 5 per cent. on foreign goods. A scale ranging from 8 per cent. on some articles competing with Roumanian products up to 20 per cent. on certain manufactures is considered requisite.

Politics.—There was a struggle in the Legislature in the early part of the year over the proposition to indict ex-Minister Bratiano and his colleagues for malfeasance in having during the twelve years of his ministry given orders and made contracts without competition, and for other irregular acts. The motion was finally defeated on Feb. 12 in the Chamber by a vote of 86 to 67. The continuance of the fortifications, which have several times come to a standstill for lack of means to proceed with the work, was opposed by few except the Russophil Boyar party. In May the credit was voted by 93 against 53 votes. The discordant factions of the Liberal party, headed respectively by Joan and Dimitri Bratiano, were reunited in a single organization in April under the leadership of the latter, to whom his more distinguished brother yielded important points, especially in respect to foreign policy. The Chamber passed by 91 to 7 votes the bill to establish the single gold standard, and replace the 40,000,000 lei of silver 5-lei pieces with gold coins at the cost of the state. A law was approved which gives retired officials a pension proportionate to the length of their service in the employ of the Government, being 30 per cent. of their salary if they have served less than fifteen years, 40 per cent. if they have served longer, 60 per cent. if they have been public servants for twenty years, and for those who have served twenty-five years and over the pension is 75 per cent. of their annual pay at the time of superannuation. In October the Government made a beginning in agrarian reform for the benefit of the agricultural proletariat by allotting 73,000 hectares of good arable land from the state domains to 15,000 peasant families. When the Chambers reassembled, on Nov. 27, 1890, Peucesco, Minister of Agriculture, resigned, and was succeeded by Marghiloman, from whom the portfolio of Public Works was transferred provisionally to Majoresco, who was appointed at the same time Minister of Education. Rosetti, the Minister of Justice, also retired, and Tri-

andufie entered the Cabinet in his place. Gen. Mano remained President of the Council and Minister of the Interior; Lahovary, Minister of Foreign Affairs; Gen. Vladescu, Minister of War; and Germani, Minister of Finance. The Senate elected as President Gen. Floresco, the candidate of the United Opposition.

RUSSIA, an empire in northern Europe and Asia. The legislative and executive powers are united in the autocratic hereditary monarch of the Romanoff dynasty. The reigning Czar is Alexander III, born Feb. 26, 1845, who succeeded to the throne when his father was assassinated on March 13, 1881. The heir-apprent is the Grand Duke Nicholas, born May 18, 1868, the eldest son of the Czar and the Czarina, Maria Feodorowna, second daughter of King Christian of Denmark. The administration is exercised through the Council of State, which is intrusted with the duties of putting into form the projects of laws approved by the Czar and discussing the budget; the Ruling Senate, which promulgates the laws and is the supreme judicial body; the Holy Synod, which superintends religious affairs; and the Committee of Ministers, who act as advisers of the Emperor. The following are the ministers in office in 1890: Minister of the Imperial House, Gen. Count Vorontzoff-Dashkoff; Minister of Foreign Affairs, Nicholas Carlovich de Giers; Minister of War, Count Vannovsky; Minister of the Navy, Vice-Admiral Tchikatchkoff; Minister of the Interior, Durnovo; Minister of Public Instruction, Delyanoff; Minister of Finance, Vyshnegradsky; Minister of Justice, Manasein; Minister of Domains, Ostrovsky; Minister of Public Works and Railroads, Von Hübbenet; Chief of the Department of General Control, Filipoff.

Area and Population.—The area of the empire is 8,644,100 square miles, and the population, according to official estimates for 1887, is 113,354,649. In European Russia there were estimated to be 85,282,101 inhabitants; in Poland, 8,319,797; in Finland, 2,232,378; in the Caucasus, 7,458,151; in Central Asia, 5,532,021; in Siberia, 4,493,667. The marriages in Russia in Europe numbered 692,665 in 1885; births, 3,942,277; deaths, 2,742,350; surplus of births, 1,199,927. In Poland the number of marriages was 60,938; births, 328,721; deaths, 201,784; surplus of births, 126,937. For Finland the marriages were reported in 1886 as 16,248; births, 78,576; deaths, 49,514; surplus of births, 29,062. In Siberia there were 23,481 marriages, 212,148 births, and 150,197 deaths in 1885; surplus of births, 61,951. In the Caucasus the number of marriages returned was 56,550; births, 268,250; deaths, 171,708; surplus of births, 97,542. Of the total population of the empire in 1885 the towns contained 13,947,825 persons, while 94,063,353 lived in the country. The males numbered 54,063,353 and the females 54,723,883. The population of St. Petersburg in December, 1889, was 861,303. Moscow in 1885 had 753,469 inhabitants; Warsaw, 454,298; Odessa in 1887 had 270,643; Riga in 1885 had 175,332; Kharkoff, 171,416; Kieff in 1887 had 170,216; Kazan had 140,726 in 1885; Saratoff, 122,829; Kishineff, 120,074; Lodz, 113,413; Vilna, 102,845.

Finances.—The receipts of the Government for the financial year 1889 were 927,035,000 rubles

from ordinary and 62,899,000 rubles from extraordinary sources, making with 20,748,000 rubles, the surplus of former years, the sum of 1,010,682,000 rubles. Of the ordinary receipts, 88,396,000 rubles were derived from the land, license, and income tax, which is 5 per cent., 274,920,000 rubles from the tax on drink, 138,051,000 rubles from customs, 28,178,000 rubles from tobacco, 17,959,000 rubles from the sugar tax, 20,163,000 rubles from stamps, 11,899,000 rubles from registry fees, 40,329,000 rubles from other indirect taxes, 32,735,000 rubles from mining and mint royalties, the post-office, and telegraphs, 68,939,000 rubles from domains and forests, 91,747,000 rubles from sales, and 110,348,000 rubles from other sources. The total ordinary revenue was 61,572,000 rubles in excess of the budget estimates. The total expenditures were 857,881,000 rubles for ordinary and 104,958,000 rubles for extraordinary purposes, making in all 962,839,000 rubles, which left a balance of 47,843,000 rubles on hand at the end of the year. The ordinary expenditures under the various heads were 270,693,000 rubles for the public debt, 225,989,000 rubles for war, 107,662,000 rubles for financial administration, 75,663,000 rubles for the Interior, 40,784,000 rubles for the navy, 36,066,000 rubles for roads and communications, 24,435,000 rubles for the domains, 21,622,000 for justice, 21,941,000 for education, 11,186,000 for the Holy Synod, 10,560,000 for the court, and 5,380,000 for other purposes.

For 1890 the ordinary receipts were estimated at 888,898,051 rubles, and the extraordinary receipts at 15,869,463 rubles; the ordinary expenditures at 887,457,282 rubles, and the extraordinary at 57,818,700 rubles. The revenue is estimated at some 7,500,000 rubles less than in 1889, notwithstanding new sources of income were included, because the harvest had been very poor. The surplus that the Government had been enabled by the abundant harvests of 1877 and 1888 to accumulate was sufficient to cover the additional extraordinary expenditures. A steady augmentation of taxation has added in six years 73,500,000 rubles to the annual revenue, and 31,750,000 rubles of the increase in the revenue are due to the general development of the empire.

The debt of the empire on Jan. 1, 1890, consisted of 330,477,570 rubles of loans payable in specie, 2,975,331,268 rubles payable in paper money, a Dutch loan of 60,487,000 guilders, and one payable in England of £25,811,100; Polish debts of 14,141,450 rubles in specie and 35,863,922 rubles in paper currency; the Nicholas Railroad bonds amounting to 548,097,000 francs; the consolidated railroad debts of £14,628,000 and 632,734,000 metallic rubles, and bonds of railroads acquired by the Government, amounting to 17,821,141 rubles in specie and 10,309,000 rubles in paper currency. For the debts contracted in specie the payments in 1890 amount to 70,156,859 rubles, and for the debts contracted in paper rubles 147,765,488 rubles, making, with 49,109,802 rubles premium on the payments in gold and silver, a total expenditure of 267,032,149 rubles. The attempt to convert the debt, begun in 1887, was facilitated by agricultural prosperity, and by the end of 1889 the amount of debt on which the interest was reduced from 5 to 4 per cent. was 610,000,000 rubles in gold.

The Army.—The Russian Empire, exclusive of Finland, is divided into 13 military districts, each of which can send into the field an independent army. The European districts or circumscriptions have from 2 to 4 *corps d'armée* apiece, in all 20 corps, composed, as a rule, of 2 divisions of infantry, 1 division of cavalry, 2 brigades of field artillery and 2 batteries of horse artillery. There are 192 infantry regiments of 4 battalions. The men are now armed with the Berdan rifle of the model of 1870, having a caliber of 10·7 millimetres. In 1890 10,500,000 rubles were appropriated for rearming the troops with a new rifle that is being manufactured in Government factories, a small-bore repeating rifle, which will be introduced gradually. It is 2½ pounds lighter than the old one, has a range one half greater, and can fire 20 shots a minutes. It is said to be free from the defects of the German and Austrian rifles. The cavalry, numbering 56 regiments of 4 squadrons, exclusive of the Cossacks, carry the Berdan carbine and the saber. Each brigade of field artillery has 2 heavy and 4 light batteries of 4 pieces in time of peace, and 8 on the war footing. Of the 288 batteries, of which 12 are armed with mountain guns of 63·5 millimetres caliber, 72 have in peace the war complement of guns. The horse batteries have each 6 light pieces. The field guns, of the model of 1877, have 106·8 millimetres bore for the light and 86·9 millimetres for the heavy batteries. The fortress artillery, mortar regiments, train, railroad brigades, sappers and miners, sharpshooters, and most of the troops in Asia are outside the formations of the *corps d'armée*. The army is recruited in 24 local districts, divided into 558 administrations. Three quarters of the conscripts of Poland, Esthonia, Livonia, Courland, and Bessarabia are scattered through all the Russian infantry regiments. The foot artillery is recruited locally, but the guards, grenadiers and rifles, cavalry, horse and reserve artillery, technical troops, etc., are taken indiscriminately from all parts of the empire. The levy of recruits for 1890 was 262,400 men, inclusive of 2,400 special troops. The peace effective was 883½ battalions of foot soldiers of all classes, having 15,673 officers and 426,604 men; 344 squadrons of cavalry, numbering 2,186 officers and 57,862 men, with 50,730 horses; 346 batteries of field artillery, numbering 2,048 officers and 60,098 men; 44 companies of engineers, numbering 772 officers and 23,547 men; military equipages, 423 officers and 7,178 men; reserves, 4,182 officers and 63,263 men; garrison troops, 1,605 officers and 38,428 men; depot troops, 202 officers and 4,836 men; Cossack infantry, 150 officers and 4,956 men; 11 squadrons and 275 sotnias of Cossacks, 1,912 officers and 44,714 men; Cossack artillery, 100 officers and 3,340 men, with 106 guns; 28 sotnias of militia in the Caucasus, 71 officers and 3,358 men; custom-house and frontier guards, 860 officers and 28,500 men; total peace effective, 30,184 officers and 766,684 men, with 152,386 horses. The war effective is reported to be 49,169 officers and 2,343,158 men, with 830,087 horses, not counting the territorial army and the Cossack militia.

The Navy.—The naval forces in 1889 consisted of 24 ironclads, including 3 under construction,

34 unarmored vessels, 56 unarmed steamers, 1 sailing ship, and 107 torpedo boats in the Baltic Sea; 5 completed and 1 unfinished armored vessels, 35 unarmored ships and gunboats, 10 unarmed steamers, and 28 steam launches, and 23 torpedo boats in the Black Sea; 8 armed and 7 unarmed steamers in the Caspian; and 40 vessels in Siberia. The "Tchesma," "Catherine II," and "Sinope" are the largest vessels in the navy, 320 feet long and 69 wide, with 16 inches of armor, and armed with six 50-ton and seven 6-inch guns, mounted in a pear-shaped redoubt covered with 14-inch plates. The next most powerful ships are the "Alexander II" and "Nicolas I," 326 feet long and 67 wide, with 14-inch armor and two 50-ton, four 9-inch, and eight 6-inch guns, and the older "Peter the Great." Three other turret ships are in course of construction, 2 of them for the Black Sea. There are 6 belted cruisers and a partly belted barrette cruiser, all of modern design, with armor 6 to 10 inches thick, carrying 8-inch and 6-inch guns, and three deck-protected cruisers armed with 6-inch guns have lately been completed. In May, 1890, an armored cruiser, the "Rurik," was begun, which will be 426 feet long and 67 broad, with a displacement of 11,000 tons, a speed of 18 knots at natural draught, and coal capacity for 20,000 miles.

Commerce.—The value of the imports from Europe was 373,700,000, from Finland, 13,200,000, from Asia, 50,000,000 rubles in 1889, making the total of 437,000,000 rubles. The exports to European countries were 687,000,000, to Finland 17,600,000, and to Asia 61,900,000 rubles; total, 766,000,000 rubles. From Germany came 124,315,000 rubles of imports; from Great Britain, 100,704,000 rubles; from the United States, 50,700,000 rubles; from China, 27,280,000 rubles; from France, 19,103,000 rubles; from Austria-Hungary, 18,779,000 rubles; from Persia, 11,650,000 rubles; from Belgium, 8,224,000 rubles; from Italy, 7,581,000 rubles; from Turkey, 7,111,000 rubles; from Sweden and Norway, 6,111,000 rubles; from the Netherlands, 4,442,000 rubles; from Roumania, 1,623,000 rubles; from Denmark, 1,623,000 rubles; from Greece, 1,156,000 rubles; from all other countries, 46,670,000 rubles. Of the exports, 274,377,000 rubles went to Great Britain, 192,345,000 rubles to Germany, 47,793,000 rubles to the Netherlands, 42,893,000 rubles to France, 30,972,000 rubles to Austria-Hungary, 30,141,000 rubles to Italy, 26,106,000 rubles to Belgium, 18,758,000 rubles to Turkey, 13,184,000 rubles to Sweden and Norway, 11,648,000 rubles to Denmark, 8,819,000 rubles to Persia, 7,602,000 rubles to Roumania, 6,838,000 rubles to Greece, 1,522,000 rubles to the United States, 1,359,000 rubles to China, and 51,555,000 rubles to all other countries.

In the report of the trade with other countries of Europe the imports of textile materials were valued at 126,870,000 rubles, and the exports at 109,135,000; the exports of cereals at 352,030,000 rubles, against 427,032,000 rubles in 1888; the exports of timber at 54,863,000 rubles; the exports of linseed at 45,178,000 rubles; the imports of tea and coffee at 19,877,000 rubles; the imports of coal at 15,084,000 rubles; the exports of naphtha and petroleum at 6,333,000 rubles; the imports of hides, leather, and peltry at 11,

976,000 rubles, and the exports at 11,124,000 rubles; the exports of sugar at 13,745,000 rubles; the exports of animals at 12,955,000 rubles; the imports of tobacco at 2,838,000, and the exports at 1,048,000 rubles; the imports of dye stuffs at 15,734,000 rubles; the exports of hair and bristles at 13,101,000 rubles; the imports of tissues, trimmings, and apparel at 9,933,000 and the exports at 10,282,000 rubles; the imports of raw metals at 24,338,000 rubles; the total imports of alimentary substances at 85,349,000, and the exports at 397,937,000 rubles; the imports of raw and partly manufactured materials at 242,632,000, and the exports at 254,335,000 rubles; the imports of manufactured articles at 75,223,000, and the exports at 21,858,000 rubles. The imports of precious metals across the European frontiers were 9,349,000 and the exports 17,411,000 rubles; and the imports from Asia were 1,815,000 and the exports 3,002,000 rubles. The imports of tea overland from Asia in 1889 amounted to 17,579,000 rubles; textile materials, 10,190,000 rubles; the grain exports to Asia 17,558,000 rubles; the exports of textile manufactures, 2,485,000 rubles.

The export movement was checked and importation stimulated by a sudden rise in the value of the paper ruble in the summer of 1890, which was attributed to German bourse manipulators. In order to make the duties correspond with the altered rate of exchange, they were raised all around 20 per cent. by a ukase issued on Aug. 30, the effect of which was neutralized by an immediate further rise of 20 per cent. in the exchange value of the paper ruble.

Navigation.—In 1888 688 vessels were entered at the White Sea ports, of which 300 were with cargoes, and 674 were cleared with cargoes and 2 in ballast; 6,965 were entered and 6,886 cleared at the Baltic ports, 3,553 of the former and all except 415 of the latter carrying cargoes; 6,278 were entered and 6,227 cleared at the ports of the Black Sea, 4,745 arriving and only 908 going away without cargoes; and on the Caspian Sea 1,040 were entered and 1,005 were cleared. For the entire empire the arrivals numbered 14,071, of which 6,291 brought cargoes, and the departures numbered 14,794, of which 13,200 sailed with cargoes. Of the total number entered 10,042, and of the vessels cleared 9,917, were steamers. Of the vessels entered, 4,623 were English, 2,623 Russian, 1,740 Swedish and Norwegian, 1,711 German, 1,050 Danish, 830 Turkish, 652 Austrian, and 185 Dutch, etc.

Railroads.—The railroads on Sept. 1, 1890, had a total length of 26,534 versts or 28,327 kilometres, without reckoning the railroads of Finland, measuring 1,825 kilometres, and the Transcaspian line of 1,433 kilometres. The gross earnings of the state railroads in 1888 were 279,444,317 francs.

Posts and Telegraphs.—In 1888 there passed through the post-office 157,121,000 domestic and 22,078,000 foreign letters, 17,300,000 domestic and 3,254,000 foreign postal cards, 19,006,000 domestic and 8,373,000 foreign papers and circulars, and 11,904,000 money letters of the value of 16,299,985,000 francs. The receipts were 75,259,133 and the expenses 91,787,784 francs.

The telegraphs had an aggregate length in 1888 of 122,020 kilometres, with 284,637 kilome-

tres of wires. The internal messages numbered 8,638,039; foreign messages dispatched, 679,308; foreign messages received, 727,122; total, including official and in transit, 10,804,587. The receipts were 2,384,725 francs.

Finland.—The Grand Duchy of Finland, by the treaty of 1809 and the special grant of Alexander I, renewed by his successors, has preserved some of its ancient constitutional liberties. A national Parliament is convoked every three years to consider projects of law submitted by the Emperor, who is Grand Duke of Finland. For altering the Constitution or levying taxes, the unanimous consent of the four Chambers of Parliament, representing the four estates of the nobles, clergy, burgesses, and peasants, is necessary. There is a Senate sitting at Helsingfors, the members of which are nominated by the Crown, to exercise supervision over the administration of the duchy. The money unit is the mark, having the same value as the franc. In 1888 the customs produced 16,434,000, and in 1889 over 19,000,000 marks. During the triennial period 1888–'90 a surplus of 15,000,000 marks accumulated in the treasury. The exports are timber, wood pulp, paper, cardboard and paper hangings, iron and steel goods, butter, leather, hides, and pitch. Since the imposition of heavy duties on Finnish products in 1885 the exports to Russia have steadily declined, while those to England, Germany, and other countries have grown.

Russification of Finland.—The policy of amalgamating the non-Russian communities with the general mass of the Russian nation by abolishing their guaranteed autonomous institutions and promoting conformity with the state religion was vigorously prosecuted in 1890. Pobodonstcheff, the procurator-general of the Holy Synod, who endeavored to wipe out the Russian sects by relentless persecution, used both force and enticements to induce the Uniate Catholics of the Polish provinces to adopt the orthodox religion, and planted churches and missionaries among the Lutherans of the Baltic provinces. The separate judicial and municipal institutions and all the rights of self-government having been abolished, the officials could proceed without restraint in their task of uprooting the German language and forms of worship. Pastors who resisted ran the risk of being deprived of their incomes, for the church lands and endowments that were formerly managed by the clergy for their own benefit, were placed in charge of local lay committees dominated by Russian officials. Candidates for the ministry were compelled to seek the approval of the Czar in St. Petersburg, and his confirmation was required also for Catholic appointments in Poland. In South Russia the Russification of the once favored and encouraged German agricultural colonies was begun, and ordinances were issued by the Governor of Kieff to repress and restrict their influence.

In January, a commission composed of members of the Russian Council of State and of the Finnish Senate, met to consider a project for securing a closer union of Finland and Russia by abolishing certain constitutional rights of the grand duchy. The commission approved the amalgamation of the Finnish customs, post-

office, and railroad system, with those of the empire and the introduction of the Russian currency and abolition of the Finnish gold coinage, though not of the metallic standard. The postal service of the empire was extended to Finland by a ukase issued in the summer. The law introducing the Russian silver currency was promulgated later. On the recommendation of the Minister of Finance the paper ruble was also made legal tender at a rate fixed monthly in accordance with the quotations of the London Exchange. In regard to the separate customs frontier, which a section of the Finns were willing to see abolished for the sake of extending their trade in Russia, it was decided to leave it for the present as it is, lest Finnish competition should ruin Russian paper mills and other industries. Near the close of the year the Czar announced his purpose of incorporating the army of the duchy as a brigade in the imperial army. These measures were all preliminary to the entire suppression of the national Government that Finland has enjoyed by special concessions of the Czars since 1810, and the reduction of the grand duchy to a province of the empire on the same footing as the other provinces. A commission was appointed to revise the Constitution of Finland with the view of its complete absorption.

The Tolstol Reforms.—The project of the late Minister of the Interior, miscalled reform, was inaugurated by the appointment, on Feb. 13, 1890, of district chiefs in six governments. Instead of selecting only persons of superior education, as the laws as approved by the Emperor on July 24, 1889, prescribed, it was found necessary to appoint temporarily men who seemed fitted for the office without regard to their school training. Among the 288 *Natschalniki*, only 12 were of higher military rank than captain and 10 of corresponding rank in the civil service, while not more than 1 per cent. possessed the desired university education. The introduction of the new administrative system in six more governments was postponed till October, and the scheme was subjected to modifications in the light of the experience gained, which augured, on the whole, unfavorably for the success of the project.

Edicts against the Jews.—The Jewish population of Russia is estimated at 5,000,000. A partial census taken recently in the western and southwestern provinces makes the Jews 11.3 per cent. of the whole population. The total number was 2,843,364, of whom 2,261,863 were found in the towns. In Odessa they number 73,389, constituting 35.1 per cent. of the population. Since 1881 oppressive regulations and popular violence, depriving them of their means of livelihood, have driven large numbers to emigrate to England, the United States, and other countries. This movement has abated since the peasant riots against the Jews that spread through the southern provinces in 1882 and 1883. According to the laws decreed on the recommendation of Gen. Ignatieff's commission in May, 1882, which have not hitherto been strictly enforced, Jews are permitted to reside in only sixteen of the sixty-eight governments of European Russia. Merchants of the first guild and professional men are alone excepted from

this restriction, though by special law of 1865 mechanics could obtain licenses to live temporarily outside the pale, which comprises the western frontier provinces and Poland. Within the pale Jews have been restricted by law to the towns. They are unable to hold real estate or to employ Christian labor. In 1890 the Government undertook to apply the laws that had been allowed to become a dead letter. By a new edict all Jews in villages, with the exception of settlers in Jewish agricultural colonies established before 1882, were compelled to take up their residence in the cities. The licenses of artisans were withdrawn; also the right to carry on trade in Riga, Libau, Rostoff, and other towns beyond the pale. The professions and the Government service were closed altogether to persons of this faith. The former regulations limited the proportion of Jewish students in the universities and other institutions of learning to 5 per cent. This proportion was reduced to 3 per cent., and from many schools all the Jewish students were driven away. The Council of State considered a project for modifying and making more stringent the anti-Jewish regulations in December. The zone of 50 versts from the frontier, within which Jews were permitted to live, was to be increased to 100 versts. The May laws were extended to Poland, which was before exempt from their application. Jewish lawyers were prohibited from practicing except by special permission of the Minister of the Interior. Employment as military surgeons and in any capacity under the Government was taken away from those who had been admitted to such occupations, and the profession of engineering was shut against Jews, who were also forbidden to engage in mining operations or purchase shares in mining property. It was calculated that by these new and revived edicts about 2,000,000 persons were suddenly deprived of the means of support. The right to vote for members of the *zemstvos* or provincial councils was taken away. Many hundreds of small towns were included in the category of country villages, and the Jewish inhabitants were driven into the principal cities. The governors of many provinces by administrative decrees added arbitrary regulations of their own and enforced the new edicts with a thoroughness that nothing could mitigate but bribery. One governor issued an ordinance permitting the police to flog Jews publicly who showed them or any Christians disrespect. Foreign Jews were generally expelled from the country, except those who became merchants of the first guild. By the new law, apothecaries, dentists, physicians' assistants, and midwives, as well as artisans, are expelled from the places where they have been living outside the pale.

University Troubles.—The Russian students are constantly restive under the university regulations of 1884, which suppressed all the ancient rights of academic self-government, placed the schools under the supervision of Government inspectors and the students under surveillance, and drove away the best of the professors. At the Petroffsky Agricultural Academy, in Moscow, the officials in February objected to a students' entertainment at which strangers were admitted and refreshments were sold for the benefit, it was suspected, of political exiles. An ordinance

was posted forbidding outsiders to enter the buildings without permission of the school authorities. The students held indignation meetings, and the governing body decided to expel a number. The director was mishandled in the course of the dispute. The professors sympathized with the students. The agitation spread to the University of Moscow, when all the students in the academy were arrested and a list of demands was formulated, as follows: 1. Autonomy of the universities and superior schools, according to the statute of 1863; 2. Complete freedom of teaching; 3. Admission of Jews with the same rights as other students; 4. Free access to the universities without distinction of belief, nationality, social rank, or sex; 5. Freedom of meeting and recognition of the students' societies; 6. Establishment of a students' court or council; 7. Abolition of police inspection and authority; 8. Reduction of fees to the scale of 1863. The students of Dorpat, Warsaw, St. Petersburg, Kharkoff, Kieff, and Odessa held mass meetings to demand the restoration of autonomy and subscribe to lists of grievances of the same tenor as that of the Moscow students. The movement began to spread beyond the universities, when the students were incarcerated by hundreds and expelled from the schools. It took the form of a constitutional agitation for free institutions. Pamphlets printed on secret presses or smuggled from abroad demanded the abolition of the autocratic power of the Czar. These were scattered in churches, tea shops, and railroad cars, or left in letter boxes, without the police being able to detect the persons engaged in the distribution. The agitation was kept up by the circulation of portraits of Alexander II, the emancipator of the serfs and projector of constitutional reform, until the sale of the pictures was prohibited. The Agricultural Academy and the University of Moscow and the Technological Institute at St. Petersburg were closed for several weeks. From the first named 58 students were excluded; from the Moscow University, 55; from the St. Petersburg University, 22; from the Technological Institute, 25; from the School of Forestry, 15; from the Veterinary Institution in Kharkoff, 17.

Siberian Atrocities.—In the beginning of 1890 the newspapers of Europe gave the details of a cruel massacre of political prisoners in Eastern Siberia. About 30 persons of both sexes who had been exiled by administrative order were at Yakutsk, the last station before crossing the mountains and snowy plains to Verkhoiansk and Kolimsk. The acting governor, Ostashine, refused to advance a sufficient allowance of money to enable them to procure food for the journey, and made a change in the rules that reduced the quantity of provisions that they were allowed to take. A collective petition to the authorities being treated as seditious in Russia, they each signed a letter protesting that the new orders would entail suffering on all and death to the weak, and went in a body to the office of the provincial administration to present their remonstrance. The governor, vexed at these proceedings, was determined to treat them as rebels against his authority. They were ordered not to show themselves again at the Government Office, but to assemble on the morrow at the

house of the exile Notkine, where they would get their answer. In the morning a police officer came with a command for them to accompany him immediately to the office of the administration. When they argued about the contradictory nature of the orders he left in anger, and immediately afterward Cossack soldiers broke down the doors and struck among them with the butts of muskets. Some drew their revolvers, shots were fired and returned, one of the prisoners wounded the governor, who appeared on the scene, the soldiers drew up outside and fired into the house, and when the deadly work was over it was found that 6 exiles had been killed and 9 wounded. Gen. Ignatieff, the Governor of Eastern Siberia, ordered a court-martial, which found all the exiles guilty, except one, and sentenced 3 to be hanged and many others to long terms of penal servitude. Contrary to the expectations that were entertained outside of Russia, the persons who were responsible for the butchery were not disciplined. Ostashine was even rewarded for his energy by being made permanent governor of the province.

Not long after these events transpired, another tale of horror came from Eastern Siberia that produced a profounder impression in Russia. The female prisoners at Kara had long complained of the brutal insolence of the director, Masukoff. Madame Soluzeff-Kovalsky, who was to be transferred to Verkne-Udinsk, was dragged from her bed, stripped, and clothed in a convict's dress. Her companions entered a formal complaint, and, receiving no answer, they abstained in concert from food for eighteen days, at the end of which Masukoff offered his resignation. This the Governor-General, Baron Korf, would not accept. The women starved themselves again for a week, and were only induced to take food by a false tale—that the jailer had been displaced. When they learned the deception they organized a third hunger strike, which lasted twenty-two days, at the end of which Madame Nahyda Sihida went to the director and slapped his face, after calling him a villain. Baron Korf telegraphed orders to punish any act of rebellion with flogging. The male prisoners signed a declaration, informing the authorities that they would destroy themselves in a body if corporal punishment was inflicted on any political prisoner. Although the surgeon declared her unable to bear the punishment, Madame Sihida was finally, by order of the superior prison authorities, taken into the prison yard and beaten with 100 lashes, from which she died. Three of her companions poisoned themselves to death, and when the facts came to be known in the men's prison all the 30 prisoners swallowed poison. The convulsions of 2 who died warned the jailers, who forced the rest to take emetics.

Nihilistic Activity.—The refugee propagandists of Nihilism, after being expelled from Switzerland, made Paris their headquarters. A band of young persons, who had been studying medicine and other branches in the Swiss and French schools, engaged in making bombs. Experiments with explosives in the woods at Raincy put the police on their track, and on May 29 simultaneous arrests were made of 13 individuals named: Reinstein and his wife, Nakachizo, Stepanoff, Katchinzeff, Berdichevsky, Levoff, Orloff-

sky, Lavrenius, Achkinazi, Demski, Mile. Bromberg, and Mile. Fedorovna. The founder of the Socialistic party in Poland, Mendelssohn, was, at the instance of the Russian Embassy, arrested likewise, but was discharged because no connection could be traced between him and the others. Loaded bombs, bottles of explosives, and tools for making copper bombs were found in the houses of several. They were tried, and on July 5 Reinstein, Nakachizo, Katchinzeff, Lavrenius, Levoff, and Orloffsky were sentenced to three years' imprisonment. Gen. Seliverstov, who had succeeded Gen. Mesentzoff as Chief of the Third Section, but had lost his post because his fear of being murdered like his predecessor had betrayed him into an act of cowardice, was living in retirement at Paris, and was generally suspected of being the chief organizer of the Russian political police in the French capital. On Nov. 18 he was fatally shot by a Polish Hebrew named Podlevsky. Some French journalists aided the escape of the murderer to Spain. He was subsequently arrested at Olot, and the abettors of his flight, Labrivère, Gregoire, and Mme. Duc-Quercy, were tried and convicted on their own declarations. Mendelssohn was again arrested and was detained in prison for weeks, and finally expelled.

In the early part of November the police of St. Petersburg searched the house of a privy counselor, a high official of the Holy Synod, to which their attention had been directed by an anonymous letter. There they found, in the apartment of the official's niece, Olga Ivanovsky, proclamations, manuscripts in cipher, some dynamite, and letters from Nihilists in the Russian provinces and in foreign countries. On the evidence furnished by these documents, a large number of persons were arrested in St. Petersburg and in other towns. Five prisoners, who had been arrested some time before, were tried before a section of the Senate in the middle of November. They were Sophie Günzberg, a Jewess from Kertch, who was intimately associated with Olga Ivanovsky; Michael Stoyanofsky, a Jewish student in the University; Leib Freifeld, son of a Jewish merchant; Alexis Orotchko, a soldier in the fortress of Sebastopol; and Peter Dooshesky, a lieutenant of artillery, in the garrison of Cronstadt. The men were all acquaintances and helpers of Sophie Günzberg, and the band was discovered through a slip of paper threatening the assassination of the Czar, which was found in her purse that she had left inadvertently in a tobacco shop. Lieut. Tchijesky and Simon Stoyanofsky, who were arrested at the same time with the others, became insane in prison. The Günzberg woman had been an active agent in spreading the revolutionary propaganda in the army, and had the co-operation of the officer who went mad and of Lieut. Yastreboff, who had recently died. Dooshesky's complicity was not proved, and he alone of the 5 prisoners was acquitted. The others were condemned to death. The first 5 prisoners of the circle of Olga Ivan-

ovsky were brought up for trial three weeks later, and the trial lasted till the end of the year.

The constitutional agitation, as it was called, was the immediate outcome of the students' disturbances; but the stories of the ill-treatment of political exiles had done much to produce the ferment, and a letter written by Mme. Tsherbrikova, a lady widely known from her writings on female education, who had never before taken part in political discussions, had contributed still more to the excitement, which, in turn, communicated a fresh impulse to Nihilistic activities and gave rise to renewed plots against the life of the Czar. Mme. Tsherbrikova's epistle was addressed to the Czar, and a copy was delivered to each of the ministers. In it she described the evil results of the suppression of free speech and all popular liberties and the return to the gloomy tyranny of Nicholas I, which Count Tolstoi and other functionaries had counseled after the murder of Alexander II as the only means of saving the autocracy. The autocracy, she said, was practically one of the public functionaries, for the Emperor is obliged to see only what the *Tchinovniki* permit him to see. Revolution and terrorism were not the fruit of the reforms of Alexander II, since obliterated, but of the tardiness and insufficiency of those reforms. At present the country is governed without law according to the caprice of functionaries who abuse their power for the gratification of spite and passion and the advancement of their private interests. Spoliation and excesses go unpunished. Each governor is an autocrat in his province, each *Ispravnik* in his district, each *Stanavoi* in his canton, and each *Ouriadnik* in his village. By closing the high schools and universities to young men without fortunes, the Minister of Public Instruction had irritated the poorer section of the nobility and other classes, and the regulation restricting students to the schools and universities of their own districts and all his other measures tended to stifle education. The Czar and his family had nearly paid with their lives for the suppression of exposures in the press of the jobbery and corruption in the construction of railroads. The policy of persecuting thought drives the youth of the country into the camp of the revolutionists. The Government employs provocative agents in the Nihilistic press and accepts with open arms and believes without question the revolutionists who can be induced to betray their associates. On their testimony and that of police spies interested in securing convictions, political prisoners, sometimes children of fourteen years, are consigned to solitary confinement or to the often fatal hardships of exile. Offenses that would be punished in Austria with two weeks' imprisonment entail twelve years of banishment to Eastern Siberia. And when legal proofs are wanting an administrative order is signed on the mere suspicion of the police functionaries for the deportation of persons to that deadly climate.

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SABBATH UNION, AMERICAN. The American Sabbath Union was organized Dec. 12, 1888, at Washington, D. C., on the basis, as declared in its constitution, of "the Divine authority and universal and perpetual obligation of the Sabbath, as manifested in the order and constitution of nature, declared in the revealed will of God, formulated in the fourth commandment of the moral law, interpreted and applied by our Lord and Saviour Jesus Christ, transferred to the Christian Sabbath, or Lord's Day, by Christ and his apostles, and approved by its beneficent influence upon personal and national life." Its object is to preserve the Christian Sabbath as a day of rest and worship. Its organization includes a president, Col. Elliott F. Shepard, three vice-presidents at large, a vice-president representing each religious denomination which has officially appointed representative members, and one vice-president from each State and Territory of the Union, and three secretaries—the General Secretary, a Secretary of Publications, and a Corresponding Secretary. Eight districts are established and defined in the United States, each of which has its own district committee and secretary, having charge of the work of the union within its borders; and the control of the general work of the union during the interim of its annual sessions is intrusted to an executive committee. Provision is made in the constitution for the organization of Sabbath conventions, and State, county, city, and village associations, to be auxiliary to the union. At its first anniversary meeting, held in Washington in December, 1889, the union recommended an amendment of the Constitution of the United States, so that the President's term of office should begin on the first Wednesday, instead of the fourth day of March; suggested the enactment in all the States of such statutes "as shall best preserve the rights of all classes to the weekly rest day, and promote the moral welfare of the people"; advised the application of prohibitory Sunday laws to the sale of newspapers, candy, cigars, and tobacco; and urged individual Sabbath observance, in the terms of the fourth commandment, upon all the people. It pledged itself to co-operate with law and order societies in efforts to close liquor saloons, as constituting one of the first and most important works to be encouraged by it.

The second anniversary meeting was held in Philadelphia, Dec. 8 and 9, 1890. Reports were presented on the general Sabbath work; on the organization of allied Sabbath societies in various parts of the United States; and on the conditions of the Sabbath movement in New England, Ohio, and California. The representatives of the society had been active in forwarding petitions to the World's Columbian Fair Commission, requesting that the World's Fair in Chicago in 1893 should be closed on every Sunday during its continuance. Nearly five hundred such petitions had been received from all the States of the Union but five, from representative

bodies of many kinds, and from individuals. A certificate of incorporation had been taken out under the laws of the State of New York, and was accepted by the meeting. It was resolved to request Congress to pass a law requiring the Columbian Exhibition to be closed on the Lord's Day, and the Legislature of Illinois to close the saloons and other places of traffic in Chicago on Sundays during the exhibition. A recommendation was addressed to workmen that they endeavor to obtain the Lord's Day as a day of rest for themselves and their families. The treasurer reported that his receipts for the year had been \$10,219, all of which, except \$34, had been disbursed.

SALT, NEW FIELDS OF. Recent reports to the Legislature of New York show that the salt brine from the State reservation at Syracuse is decreasing both in quantity and in strength. Several test wells have been sunk in the reservation for the purpose of securing more and stronger brine, but thus far without success. Outside of the reservation, within a few miles of Syracuse, a bore has been made through 735 feet of shale, then 500 feet of limestone, when underneath, at a depth of 1,210 feet from the surface, the salt was found "in place." It is proposed that the rock salt be converted into saturated brine and, by a system of piping, the brine be brought to the city. Saturated brine can be converted into salt for market at 33 per cent. less cost than brine pumped from the State wells. There is also an advantage in the cost of fuel, besides a saving of the State duty. On the Syracuse reservation the great cause of the decline of the salt production is acknowledged to be the fact that the salt of Michigan is produced with much less expense for fuel; but, more than all, because the mining of salt in Livingston and other counties of New York has become practicable. The shaft at Piffard, Livingston County, has reached a depth of 1,140 feet, but in the last 130 feet there was a total of 83 feet of rock salt, two veins of which were 22 and 53 feet, respectively, with small strips of shale between. The salt beds of western New York extend about 120 miles from east to west, and about 50 miles from north to south. The area of the salt-bed territory is therefore nearly 5,000 square miles, and the average thickness is 40 feet. This means that the supply is practically inexhaustible. Some of this salt is now sent to Syracuse to improve the quality of the brine on the State reservation. The brine from western New York holds an exceptionally small proportion of the chlorides of calcium and magnesium. This has made it possible for a ton of coal to produce more salt in the Warsaw region than can be produced by one in Syracuse. Under the former tariff the duty on foreign salts was 8 cents per hundred, or 22 cents for a barrel of 230 pounds. The new McKinley tariff places the same duty on salt in bulk, and 12 cents per hundred in bags. Salt having dropped from \$1.30 a barrel in 1860 to less than one third of that amount in 1890, the

saving of the two thirds has been an aggregate of about \$10,000,000 to the people of the United States. There is now a contest between the brine manufacturers and those who mine salt from the western part of New York over the proposed sale of the State reservation. The production of salt in Michigan is still carried on from the brine, the cheapness of fuel in that locality giving the makers a great advantage over those of Syracuse.

In Lincoln County, Nevada, the immense deposits of rock salt are easily reached from the surface; and it is said that any man can quarry and wheel out five tons a day. It is only necessary to grind it to render it fit for dairy or table use. Hitherto this salt has not been a factor in the market, because the salt fields were not penetrated by the railroads.

Recent borings near Cleveland, Ohio, have shown the presence of several thick veins of salt. At the depth of 2,500 feet the first was encountered, and after an interval of 50 feet the second; 80 feet below the second, and at a depth of 3,400 feet, was found a great vein, which promised to be so thick that the idea of finding gas was abandoned, and the well was cleared out and closed temporarily. The salt from these veins is now being mined.

On the coast of Louisiana, west of the Mississippi river, a cluster of islands forms what is known as Petite Anse Isle, which has been for some years noted for beds of salt. It has salt 99 per cent. pure, which is said to be the purest found in the world. The main bed is from 300 to 400 feet in depth. The mining in this locality has been developed to a very large extent within the past two years.

In 1887 borings were made in Reno County, Kansas, which struck a bed of salt about 500 feet from the surface. The bed was found to be 300 or 400 feet thick of pure salt, with the exception of two or three thin layers of soapstone. The field is many miles in length, and it is estimated that every square acre has 2,000,000 barrels of salt. Thirteen factories are now producing salt from this bed.

A salt manufacturer of Austria has invented a method that quickens the process of production without the risk of damage to the product, and without increasing the absolute heat. It also reduces the expense of working and maintenance. The invention depends upon the fact that the boiling point of a liquid is lowered by reducing the pressure. The evaporation of any liquid contains a certain amount of latent heat, which is sufficient to evaporate another quantity of liquid, provided the boiling point of the latter is below the temperature of the steam used.

SALVADOR, a republic in Central America. Gen. Francisco Menéndez was proclaimed Provisional President on June 19, 1885, and on March 1, 1887, was elected for a regular term of four years.

The people of Salvador are more largely of Spanish origin than the inhabitants of the neighboring republics. The area of the republic is 7,225 square miles, and the population, as returned in the census of Jan. 1, 1886, was 651,130, consisting of 318,329 males and 332,801 females. The budget for 1889 makes the total receipts \$4,110,000, of which \$2,252,000 were derived from import duties and \$1,219,000

from the tax on spirits. The expenditures were \$4,037,000. The internal debt in 1889 was \$5,389,000, and there was a foreign debt of £300,000. The imports in 1889 amounted to \$2,878,000, of which \$958,000 came from Great Britain, \$637,000 from Central and South American countries, \$538,000 from the United States, \$325,000 from Germany, \$316,000 from France, and \$104,000 from Italy and Spain. The total value of the exports was \$5,489,000, of which \$1,515,000 went to the United States, \$1,117,000 to Germany, \$1,006,000 to France, \$919,000 to Great Britain, \$522,000 to Italy, \$637,000 to Central and South America, and \$17,000 to Spain. The exports of coffee were valued at \$3,502,000; of indigo, \$1,205,000; of sugar, \$200,000; of silver, \$171,000; of tobacco, \$150,000; of balsam of Peru, \$74,000.

Revolution.—Gen. Menéndez, who defeated Gen. Figueroa and the Zaldivar faction in 1885, and frustrated the plan of Barrios to unite the five Central American republics in one confederacy, fell in time under the influence of the Guatemalans, and, in 1888, joined Gen. Bográn, of Honduras, and the other presidents, in signing a declaration in favor of union. This started afresh the old conflict between the Unionists and the more powerful party opposed to union in Salvador. On June 22, 1890, at the conclusion of a banquet given on the anniversary of his triumphant occupation of the capital five years before, the President was mysteriously murdered by political enemies. Gen. Melcsio Marcial suddenly entered the ball-room, and announced a revolt against the existing Government, under the leadership of Gen. Ezeta, who had come from Santa Anna with 600 men. He demanded the deposition of President Menéndez, who was pursued by revolutionists into an upper chamber, and in the struggle he was killed and Gen. Marcial was shot by Gen. Martinez, who was taken prisoner by Ezeta's soldiers. The revolutionists obtained possession of the barracks after a brief conflict, in which 23 men were slain. Gen. Carlos Ezeta, commander of the victorious troops, was proclaimed Provisional President by the army.

Dr. Rafael Zaldivar, who had been living in Paris, joined Gen. Fabio Moran and other partisans, who worked together for his restoration to power. Gen. Camillo Alvarez, in Guatemala, aimed also to supplant Ezeta. The Vice-President and constitutional successor of Menéndez actually set up a rival government on the border of Honduras. The President of Guatemala mobilized his troops and threatened to interfere to put an end to the unconstitutional state of affairs in Salvador. Encounters between the forces of Ezeta and his enemies, aided by their friends in Guatemala and Honduras, resulted in favor of the Provisional President (see GUATEMALA), and the intervention of Gen. Barillas and Gen. Bográn had the effect of rallying the people to his support. The defeat of Gen. Rivas, after a sanguinary struggle for the possession of the capital, consolidated his power, and soon afterward the Guatemalan President was induced by the members of the foreign diplomatic corps to agree to a peace on condition that the people of Salvador should be allowed a free expression in the choice of their President. Gen. Rivas, who was a supporter of Vice-President Ayala,

raised a force of 2,000 men in Honduras, marched on the capital and seized the artillery barracks, while Ezeta's army was on the frontier of Guatemala, encamped opposite the army of volunteers that threatened his overthrow, behind whom were posted menacingly the regular troops of Guatemala. Gen. Antonia Ezeta was ordered from the frontier with 2,000 men, and reaching San Salvador, he attacked Gen. Rivas vigorously, and recaptured the city and fortress. The city suffered much during the siege of two days. Rivas was captured and publicly shot. Prominent persons who were concerned in the rebellion were executed unless they could flee to foreign parts. The Congress met in September and unanimously elected Gen. Carlos Ezeta to act as Provisional President till March 1, 1891. The treaty with Guatemala was ratified by Congress on Sept. 22, with the exception of two articles that seemed an intrusion into the sovereignty of Salvador, which, notwithstanding an explanatory declaration interpreting them in the contrary sense, were reserved for reconsideration. Salvador, being anxious to have separate representatives from the United States and other powers, which have hitherto accredited their diplomatic representatives to all five republics, appointed Geronimo Pon minister to Mexico and the United States, and on Oct. 30, a Salvadorian legation was created at Washington, and Gen. Benjamin Molino Guirola was appointed envoy extraordinary and minister plenipotentiary.

SAMOA, a kingdom occupying a group of 14 volcanic islands in the south Pacific. Their area is 2,787 square kilometres, or 1,701 square miles. The natives number about 36,000. Germany, Great Britain, and the United States signed an act, at Berlin, on June 14, 1889, guaranteeing the neutrality of the islands. The citizens of the three powers have equal rights, residence, property, trade, and protection. The independence of the Samoan Government is recognized, and the Samoans are secured by the treaty in the right to elect their King and govern themselves according to their native laws and customs. A supreme court was created to secure the rights of foreigners. It consists of a single judge, called the chief justice, who is appointed by agreement among the signatory powers, or, in default of their agreement, by the King of Sweden. This court has jurisdiction over all disputes regarding the title and possession of lands, over all suits arising between natives and foreigners or foreigners of different nationalities, and over crimes committed on foreigners by natives or committed by foreigners who are not subject to the consular courts. King Mulieta Laupepa, who was deported to Cameroons on a German war ship, was re-elected King by the people on Nov. 9, 1889, and on Dec. 10 was proclaimed and installed anew by the American, British, and German consuls. Conrad Cederkrantz was nominated chief justice by King Oscar, of Sweden, at the unanimous request of the protecting powers. A treaty, embodying the results of the Berlin conference, was signed by King Mulieta and the consuls on April 19, 1890. The treaty prohibits the sale of arms and ammunition and of intoxicating liquors by foreigners to natives. Apia, the capital, is converted into a municipal district, or international port, and is placed under a mu-

nicipal magistrate. The Samoan Government is allowed to collect certain specified duties only on foreign merchandise, but is free to levy taxes on the natives, and may, with the consent of the consuls, impose taxes on land outside the municipal district, provided the property of natives and foreigners is taxed equally. Land still held by Samoans is, in general, incapable of being sold to white people.

The delay in the appointment of a chief justice, due to disagreement of the powers, and in the establishment of a regular government, was a cause for the recrudescence of the civil strife between the rival claimants for the throne. Mulieta had possession of the ports of Savaii and Upolu, but in the interior the people supported Tamasese or Mataafa, and refused to acknowledge the restored King. Judge Cederkrantz arrived near the close of the year.

SANTO DOMINGO, a republic occupying the eastern part of the West Indian island of the same name. According to the Constitution of Nov. 24, 1844, modified on Nov. 17, 1888, the members of Congress, 2 for each of the 10 provinces, and the President and Vice-President of the republic, are elected for four years by indirect suffrage. The President is Gen. Ulisses Heureaux, elected in 1866.

The area of the republic is estimated at 18,045 square miles. The population in 1888 was estimated at 417,000. The bulk of the people are blacks and mulattoes, speaking Spanish, and to some extent French and English. There is a larger white population than in the neighboring republic of Hayti, consisting of descendants of Spanish settlers. Santo Domingo, the capital city, has about 25,000 inhabitants. The revenue is collected mainly from imports and exports. In 1889 Congress voted to increase the import duties 60 per cent. The tobacco crop in that year was almost an entire failure. Dutch planters have started plantations on the model of those of Sumatra, but are compelled to import coolie laborers, as the natives are careless in their work, besides demanding excessive wages. Hitherto the cultivation of tobacco and of coffee and cacao has been of the rudest description. Inducements have recently been offered to immigrants, who are given state lands for cultivation. The product of the sugar plantations in the southern and western parts of the republic has become an important article of trade, while the once considerable exports of mahogany have greatly declined. In 1887 the exports of sugar were 406,142 hundred-weight; of molasses, 476,993 hundred-weight; of tobacco, 175,637 hundred-weight; of cacao, 9,731 hundred-weight.

SERVIA, a monarchy in southeastern Europe. By the Constitution of Jan. 3, 1889, the executive authority is exercised by the King through a Council of Ministers, who are individually and collectively responsible to the Skupstina or National Assembly. Projects of law are submitted to a Council of State, composed of 8 members chosen by the Skupstina and 8 nominated by the King. The members of the Skupstina are elected triennially on Sept. 14 by all male Servians twenty-one years of age who pay the capitation tax. Each county elects by *scrutin de liste* a member for every 4,500 voters and one for the fraction remaining if it exceeds 3,000.

King Milan Obrenovich abdicated on March 6, 1889, in favor of his son Alexander I, born Aug. 24, 1876, and appointed a regency of three members to carry on the Government until the King shall be eighteen years old. The Regents are Jovan Ristic, Gen. J. Belimarkovich, and Gen. K. S. Protich. The composition of the ministry in the beginning of 1890 was as follows: President of the Council and Minister of Foreign Affairs, Gen. Sava Gruich; Minister of Finance, Dr. M. Vuich; Minister of Agriculture and Commerce, K. Tauchanovich; Minister of the Interior, J. Djaja; Minister of War *ad interim*, J. Ristic; Minister of Public Instruction, A. Nikolich; Minister of Justice, M. Djordjevic; Minister of Public Works, M. Jossimovich.

Area and Population.—The area of the kingdom is 48,589 square kilometres. The estimated population in the beginning of 1890 was 2,006,043, comprising 1,072,210 males and 1,023,827 females. The number of marriages in 1889 was 21,753; of births, 93,724; of deaths, 54,093; excess of births, 39,631.

Finances.—The budget estimates for 1890 make the total revenue 46,196,865 dinars or francs, of which 20,996,391 dinars are derived from direct imposts, 4,000,000 dinars from customs, 2,610,000 dinars from tobacco, salt, and spirits, 2,000,000 dinars from the courts of justice, 4,774,614 dinars from monopolies, 2,700,000 dinars from state property, domains, railroads, posts, and telegraphs, and 9,146,312 dinars from other sources. The total expenditures are made to balance the receipts, the largest items being 19,307,295 dinars for the debt, 9,646,104 dinars for the army, 3,320,170 dinars for worship, instruction, and justice, and 2,770,555 dinars for pensions and grants.

The capital of the debt on Jan. 1, 1889, stood at 255,146,520 dinars, of which 127,640,000 dinars were raised to build the Servian sections of the international railroads.

The Army.—The law of Jan. 31, 1889, makes military service compulsory and universal. It begins with the age of twenty-one and lasts one year in the active army, of which only the cadres exist in time of peace, nine years in the reserve, ten years in the first ban and ten years in the second ban of the national militia. The country is divided into 5 military districts. There are 75 battalions in the active army and its reserve numbering about 70,000 infantrymen, 30 squadrons or 3,500 cavalry, 57 batteries, counting 7,000 men, with 282 field pieces, and 24 companies of engineers, numbering about 3,500 men, which makes a total strength of 84,000 men. The territorial militia is believed to number about 70,000 infantry, organized in 120 battalions, and 3,500 men of other arms. The substitution of a national army for the professional soldiery of King Milan has increased the fighting strength of Servia, the use of which will depend more henceforth on the uncertain political moods and uncontrolled aspirations of the people. In the summer of 1890 an experimental mobilization of 60,000 men was tried, and was pronounced a success, and in the autumn some thousand Berdan rifles from Russia were distributed among the two bans of the militia. The cavalry has been armed with lances, after the Russian model.

Commerce.—The total value of the imports in 1889 was 34,843,000 dinars, and of the exports 39,066,000 dinars. Of the exports 14,029,000 dinars consisted of agricultural and horticultural products, 2,216,000 of articles of food and drink, 16,308,000 of animals and animal products, 3,002,000 of hides and skins, and 1,693,000 of timber. The important export trade in Servian hogs with Austria-Hungary was for months stopped by prohibitive regulations on the Hungarian border. The stoppage of this trade, which averages 24,000,000 dinars a year, was in reality an act of reprisal for the vexatious policy of the Radical Government toward the Vienna Cabinet. In September, 1890, after long negotiations, mutual commercial concessions were agreed on and the prohibition was removed by the Hungarian Government. The regulations were based ostensibly on sanitary considerations, and to secure their abolition the Servian Government engaged to subject pigs to eight days' inspection before granting certificates of health, without which they can not be imported into Hungary. It also agreed to close its frontier against the importation of Roumanian swine. A treaty of commerce with Russia had been negotiated, but the arrangement with Austria-Hungary, by which Servia promised to concede to no other state more favorable commercial treatment prior to Sept. 17, 1892, than she grants to that empire, prevented its ratification. A similar obligation binds her to extend most-favored-nation treatment to Germany till June 25, 1893. In the mean time the Servian Government allows the importation of Russian goods at the rates of duty that are applied to Austro-Hungarian and German merchandise, which must not exceed 20 per cent. of the duties fixed in the general tariff. Negotiations for a commercial convention with Bulgaria were broken off in the early part of the year, and afterward, in consequence of the Minchevich affair (see BULGARIA) diplomatic intercourse was almost entirely suspended. The ten years' treaty of commerce with Great Britain, which expired on Feb. 7, 1890, was replaced by a temporary convention, and this was subsequently extended till Jan. 1, 1893, a year longer than the original term.

Communications.—The Servian railroads have a length of 526 kilometres.

The post-office in 1889 forwarded 3,025,000 internal, 1,813,000 foreign, and 224,000 transit letters, 143,000 postal cards, 3,156,000 papers and circulars, and 170,000 letters with declaration of value and postal money orders. The telegraphs in 1889 had a length of 2,912 kilometres, with 4,930 kilometres of wires. The number of dispatches was 496,088, of which 340,062 were internal, 139,973 international, and the rest official or in transit. The receipts of the post-office in 1889 were 469,928 dinars, and the expenses 517,024 dinars. The telegraph receipts were 512,320, and the expenses 501,120 dinars.

The Legislative Session.—The Skupshtina that was prorogued on May 2 accomplished important changes in the system of government. A restoration of Russian influence was evidenced by the supplies of Berdan rifles obtained from the Russian Government and by the regard paid to Russian wishes in the framing of the new ecclesiastical law. The new laws were shaped

mostly in accordance with the Radical programme. In the electoral law effective safeguards were inserted to prevent illegitimate pressure or falsification of returns, to secure the proportional representation of minorities, and to guarantee to all parties complete freedom in the exercise of the right of suffrage. The law reorganizing the national, communal, district, and county administration for the first time realizes the popular desire for decentralization instead of the concentration of powers in the hands of the Central Government that has been the prevailing tendency. The communes, and also the districts and counties, have extensive political, police, and judicial functions under their control, for which special representative bodies were created, which possess, moreover, a certain power of taxation. Of a reactionary character is a law giving the Minister of Justice a certain disciplinary control over the judges. The law on the administration of the Church is equally at variance with Radical principles. The lower clergy are deprived of the representation they have had in the Holy Synod and are subjected entirely to the authority of the Metropolitan. By voting this bill in obedience to Russian dictation the Radicals drew upon themselves the enmity of the village clergy, a class that has always furnished effective support to their party. The Skupshtina also approved the nationalization of the railroads and a bill on monopolies that was expected to increase the public income. The most important act of the session, which lasted six months, was the introduction of the militia system, which was carried out only partially, for King Milan's army was too powerful a political force to be transformed suddenly against the will of the officers. Two of these, Col. Milan Pavlovich and Lieut.-Col. Jovan Baulich, were deprived of their commands in January for attempting to agitate among their comrades against the reorganization of the army.

Queen Natalie's Demands.—Not less than before King Milan obtained his decree of divorce and vacated the throne the course of politics continued to depend in 1890 on the quarrels between him and Queen Natalie. Garashanine, who had always combated the political opinions represented in the circle that surrounded the Queen, had retired from power rather than countenance the King's desire to have a divorce granted irregularly and without legal grounds, and the King had placed himself in the hands of his political opponents, the former friends of Queen Natalie, in order to obtain their co-operation in securing the divorce, and when both had carried out their part of the bargain, he resigned his royal prerogatives rather than govern under a Radical Constitution. The decree of divorce signed by the Metropolitan Theodosius, after the Holy Synod had referred the matter to a constitutional court and the latter had decided that no cause for a divorce existed, was contested strenuously by Queen Natalie. After the divorce was granted and she was deprived of the custody of her son, with the aid of the German authorities at Wiesbaden she entered into correspondence with the public men of Serbia with a view of being invited back to Belgrade with full recognition of her rank and status, and also sought the intervention of the

Czar and of the ecclesiastical authorities in Russia. Receiving only evasive replies, she determined to go to Belgrade without an invitation. King Milan also returned to Serbia to oppose her aims. She demanded the right to live in Belgrade and to see her son every Sunday and holiday. Gen. Gruich obtained from the ex-King and Ristich their sanction to her visiting the King twice a year in the palace, and being on those occasions treated with royal honors, and when she rejected this compromise, he would have nothing more to do with her case. The women and the youth of the country sympathized strongly with the Queen mother. She had the advocacy of Garashanine and his recently resuscitated party and the more powerful support of the Liberals. Ristich and the Radical ministers were deterred from granting her requests by the promises they had made the ex-King. It was not known till afterward that Milan, who still possessed a strong influence over the officers of the army, had guarded against their acceding to the wishes of the Queen by making his abdication conditional. The Premier wrote to her that she was at liberty to return to Serbia as a private person whenever she pleased, but that it rested with King Milan, as King Alexander's guardian, to regulate her interviews with her son. When the Skupshtina met again in the autumn she submitted a memorandum praying for the restitution of her rights. In this document she first made known the fact that the Holy Synod had pronounced the decree of divorce invalid and that the Metropolitan Michael had annulled it by a decree signed six months before, on June 25, 1890. Through it the secret compact between King Milan and the Regents was revealed likewise for the first time. The Radical majority in the Skupshtina prevented any action being taken on the memorandum, which by a futile vote they endeavored to keep secret from the world. The Liberals made a strong fight in favor of a vote on the petition, and when the tactics of suppression and evasion prevailed they left the hall in a body by way of protest. A section of the Radicals, headed by Dragishka Stanovjevic, an old supporter of the Karageorgevich pretenders, seceded from the party on the same question. The ex-King declared that if the clause in the Constitution giving him absolute rights of guardianship over his son should be set aside he would regard it to have been abrogated as a whole and would act as though his abdication had not taken place.

Old Servia.—The decision of the Porte to create Bulgarian bishoprics in Macedonia (see BULGARIA) rekindled Serbian as well as Greek jealousies. Several lawless acts committed in the Turkish provinces were made the subject of diplomatic complaints in 1890. In May the Arnauts who dwell in Kossovo, belonging to the turbulent section of that unruly nation that formerly lived in the southern part of the present Kingdom of Servia and migrated across the border after the Berlin Treaty, fell upon some Christian villages near Ipek, drove out the inhabitants and massacred the fugitives near Kolashina. Since their migration they have enjoyed no prosperity, and have frequently committed raids across the Servian frontier or on their Slavic neighbors in the confines of Turkish territory.

The last outrage was due to exasperation at being deprived of some Government land which the Porte had reclaimed in order to settle Mohammedan immigrants from Herzegovina and Bosnia. A few weeks later the Servian vice-consul at Pristina, Marinkovich by name, was murdered. The Servian Government, attributing the act to Bulgarian intrigue, though afterward the murderer was found to be an Arnaut, demanded reparation from the Porte.

The Liberals, the party of Ristich, the chief Regent, in June, 1889, announced as their programme the union of all the branches of the Servian family under one sovereign. The patriotic St. Sava Society provided means for the education of a hundred youths from Turkish lands. The Bulgarians complained that the Servian political propaganda was pushed industriously among the Macedonian Bulgarians, and were disposed to deny that the Servian race was represented at all in Macedonia. The efforts of the Servians to maintain their influence were of little avail against the steady absorption of the Slavs of Turkey into the Bulgarian nation. The soreness of the Servians at the desertion of the St. Sava School by pupils brought from Macedonia found vent in a sharp diplomatic quarrel when it was found that the Bulgarian agent had assisted the young men to escape to Sophia. One of the most famous of the Servian agitators in Macedonia, the priest Stojan Kristich, who had taken up an attitude of hostility to the newly consecrated Bulgarian Bishop of Ochrida, was mysteriously murdered in the beginning of November. In December Servia and Montenegro concluded a convention according to which Montenegrin emigrants, of whom 8,000 settled in Servia in 1889, being driven by dearth of food from their own country, shall enjoy the rights of Servian subjects without the delay and trouble of formal naturalization. This is a step in the direction of a Pan-Servian scheme that has been broached, in accordance with which the Slavs of the neighboring parts of Austria-Hungary and Turkey, by virtue of their Servian blood, shall be entitled to the rights and privileges of born Servians.

SHOT-GUNS. The history of firearms goes back much further than is generally supposed. In the Goutoo laws, possibly coeval with Moses, there is a passage which it has been held implies a knowledge of gunpowder. Quintus Curtius refers to the campaign of Alexander the Great in India, intimating that a tribe known as the Oxydrææ could have defied Alexander had he attacked them, even though he had an army of men like Ajax and Achilles. "They overthrow their enemies," he says, "with tempests and thunderbolts shot from their walls." A similar legion comes through Egyptian mythology, to the effect that Hercules and Bacchus were thus overthrown when they invaded India. This race, it is alleged, dwelt between the Hyphasis and Ganges rivers. According to Robert Norton, in 1664, ordnance and gunpowder were invented in the year 58 A. D. Petarch, in his forty-eighth dialogue, writes that prior to 1374, the date of his death, wall pieces, birding pieces, and fowling pieces were in use. Chaucer speaks of "gonnes," and the laws of Henry VIII prohibited the ownership of hand-guns under cer-

tain conditions. In the Tower of London there are six examples of breech-loaders, one of which dates from the time of Edward II, about 1471. There are also examples of muzzle-loading shot-guns dating at intervals through the fifteenth, sixteenth, and seventeenth centuries.

The earliest shotguns were very rude; probably the military blunderbuss was at first loaded with fragments of lead, and used by enthusiastic sportsmen. Very soon gunmakers were called upon to produce something more easily carried, more easily loaded, and that would effectively throw a charge of small shot. About the year 1700 fairly good examples of fowling pieces were constructed by English gun makers, and from that time to the beginning of the present century they and their fellow-artisans in other lands devoted their attention to the improvement of the weapon.

The Anglo-Saxon race are, beyond question, more devoted to this kind of sport than any other people on earth, and their wide distribution renders the manufacture and sale of sporting arms an important branch of manufacturing industry. Beginning with the match-lock, in which the charge was fired by means of a fuse, the gun advanced through the experiments of ingenious inventors to the flint-lock, the percussion-lock, and finally to the present so-called hammerless lock. The first flint-locks consisted of a small steel wheel driven by a spring motion, which, when released by a pull upon the trigger, revolved rapidly in contact with the edge of a piece of flint; a stream of sparks flew from the wheel into the powder pan, and, unless some untoward accident occurred, the discharge of the piece followed in course of time. The next improvement was the ordinary hammer-flint, in which the piece of flint was held in a screw clamp at the head of the hammer; the hammer turned on a pivot, and, being raised to full cock, was released much in the same manner as in the hammers of the present day; the edge of the flint struck a piece of steel fitted so as to cover the powder in the pan and kept it dry. The impact of the flint at once uncovered the pan and sent a shower of sparks into the powder. Of course these appliances were all uncertain; for the powder often became damp in the pan or was shaken out altogether in course of transportation. The wars of Napoleon and Wellington were fought with flint-lock muskets, and the last issue of such weapons to British troops was made as late as 1842.

Experiments looking to the use of percussion or detonating powders for the discharge of firearms were begun in America about 1830. At first, primers that could be exploded by the blow of the hammer were substituted for the loose powder in the pan, the old mechanism being substantially retained. Then the vent or touch-hole was prolonged through a stout steel tube, which projected upward at an angle, to receive the blow of the hammer. Over the top of this tube a thin copper cap containing a detonating charge was fitted, and the stroke of the hammer insured a powerful flash within the tube, igniting the main charge of powder with unflinching certainty, provided the gun was in good order and the powder dry. It was a vast improvement upon all that had gone before, and was in gen-

eral use in this country within a few years. Old-fashioned locks were convertible at small expense into percussion arms, and by 1840 flints were practically of the past. About this time percussion arms made their way into England against the conservatism of gun makers and sportsmen, and for a generation the percussion cap held its own. Inventors were not idle, however, and various attempts were made to introduce improvements. Maynard's primers were, perhaps, the best of these devices—long strips of paper carrying explosive pellets, which were delivered successively by simple mechanism at the top of the nipple or priming tube. Springfield rifles were for a time fitted for these primers, which could be used interchangeably with ordinary percussion caps, but in practice the latter proved the more trustworthy, and held their own, in the main, until the introduction of central-fire metallic cartridges.

All kinds of sporting small arms were still far from perfect. Powder carried in flasks was liable to become damp and unserviceable; moisture would work its way into the priming or down the barrel; and the task of affixing a percussion cap with benumbed fingers in cold weather or under excitement was no easy feat.

The attention of inventors was early called to the great advantage of breech-loading over muzzle-loading arms, but their development was excessively slow. Le Faucheu was the first to invent a weapon that was a practical success; his breech-loader came into use in France several years before it gained a foothold in England; it was finally introduced about 1840 by Mr. Lang, of Cockspur Street, London. Old sportsmen at first objected to it, on the ground of its not shooting so well. This was undoubtedly true at first, but improvements soon brought the new weapon to a state of perfection that established its superiority to the best muzzle-loaders. Conservative sportsmen, however, held to the old style of gun, and it was not until 1858 that a public match was held to settle the question. The best muzzle-loaders of that date were slightly superior in

by impact against a small metal anvil surrounded by powder. The pin-fire arrangement has been practically out of use since 1867, when it was succeeded by what was known as the central fire. In this the cartridge is of paper or metal and has a rim or base slightly larger than the bore of the gun; in the center of this base is an opening filled by a percussion disk slightly counter-

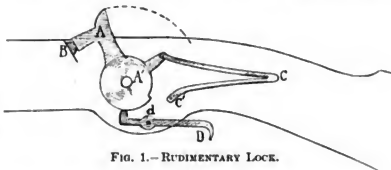


FIG. 1.—RUDIMENTARY LOCK.

sunk so that the surrounding metal protects it from accidental blows. The lock is arranged so that when the hammer or plunger is released, a point is driven against the percussion disk, exploding it and igniting the charge. The cartridges are water-proof, and do away with the necessity for powder horns, shot pouches, cap boxes, and the like.

The first breech-loaders had levers under the lock, which had to be pulled sidewise or downward to open the breech; often these levers formed the trigger guard. Practically the breech-loading shot-gun was perfected in its general details about 1865, English gunsmiths taking the lead, Westley Richards, of London, having exhibited the first snap-action arm in 1862. The chief defect in guns of that date was the untrustworthiness of the connecting appliances between the barrels and the false breech. The first device used was known as the "top-extension," a projecting piece of metal at the breech of the barrels, which engaged a catch in the metallic attachments of the stock; this was perfected by W. Greener, of London, in 1873, and proved so efficient in actual use that Mr. Greener guaranteed his guns and rarely had one returned on account of failure in this particular. The top extension

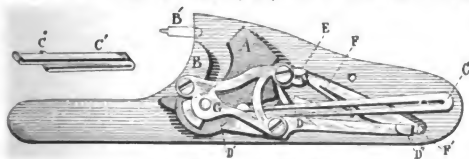


FIG. 2.—IMPROVED HAMMERLESS LOCK.

range to the breech-loaders that had then been manufactured, but the superiority was so slight that very soon the new style of weapon began to make its way, and as successive improvements were introduced the old muzzle-loader was presently superseded. The Le Faucheu was a pin-fire gun, the cartridge being constructed with a movable pin in its base, which carried a percussion cap on the inner end; the hammer struck on the rear end of the pin and exploded the cap

is still used in one form or another in many breech-loaders, but in other guns it is dispensed with altogether, and they endure constant use without failure, depending simply upon the tremendous grip afforded by the leverage of the connections below and at the end of the barrels.

Naturally the first breech-loaders were adapted to the hammer-locks then in use. This class of gun-lock had been brought in course of years to a very high state of simplicity and perfection, and the first inventions were in the direction of adapting the old hammer-lock to the demands of the modern breech-loader. All guns have hammers, but in the so-called hammerless variety of comparatively recent invention this indispensable piece of mechanism is concealed within the stock, so that there is no dangerous projection

above the general outline of the gun. A very large percentage of the accidents that have happened from the careless handling of firearms have resulted from the existence of the external hammer. In passing through thick undergrowth the hammers are constantly liable to be caught in the clothing or in the branches of trees; in climbing fences, or in shooting water fowl from a boat, the old style hammer is a constant source of danger. Its banishment, therefore, undoubtedly reduces the danger of gunning to a very considerable extent. Mr. Needham, of London, brought out a hammerless gun early in the history of breech-loaders, but owing to its complicated construction it did not find popular favor, and the invention was practically forgotten until about 1871. Small progress in the way of improvement had been made until that date, when Murcott, of London, patented a hammerless lock that was fairly successful but was in time superseded by numerous inventions, and at present the market is flooded with such guns, good and bad, cheap and costly.

The early breech-loaders were constructed with movable breech-pieces, or chambers that opened to admit the cartridge and had to be closed again before firing. It was well-nigh impossible

the dotted line the two arms of C will be pressed together, their force being exerted to drive A forward upon B. But when A has made a quarter revolution the notch in its base is engaged by D (gravity acting to raise the short arm). Thus the hammer will be held back until disengaged by upward and backward pressure upon the trigger D, when it will fly forward with force proportioned to the strength of the main spring. In practice, such a lock is likely to act, or refuse to act, at the most unexpected and inconvenient times, and it is necessary to provide various delicate safety appliances to guard against accident. But the principal parts remain the same, though they may be differently placed in relation to one another, and may be connected by cams, tumblers, and the like, to any degree of elaboration.

The introduction of central-fire cartridges has rendered possible the use of a spiral spring carrying the hammer and delivering a straight blow with its pointed head, instead of describing a segment of a circle, as in the hammer of an ordinary lock. Hammer-lock breech-loaders were at first discharged by means of the percussion caps in common use at the time of their introduction, and various forms of pin and needle fire were employed before it occurred to any one

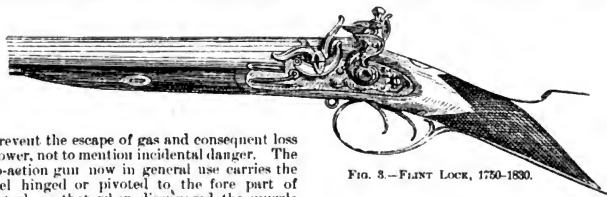


FIG. 3.—FLINT LOCK, 1750-1830.

to prevent the escape of gas and consequent loss of power, not to mention incidental danger. The snap-action gun now in general use carries the barrel hinged or pivoted to the fore part of the stock, so that when disengaged the muzzle drops almost of its own gravity and the open breech rises above the stock sufficiently to admit the ejection or extraction of the old cartridge and the insertion of new ones. This device, apparently somewhat awkward at first sight, is in fact extremely simple, since it insures through the proper adjustment of the hinge an exceedingly firm seat and grip for the barrels when in place, ready to be discharged. Moreover, it renders possible simple automatic attachments for the ejection of shells and for sundry safety appliances within the lock itself.

The purpose of gun locks from the earliest times has been to provide mechanism, in the most compact form possible, capable of delivering a sharp blow at any desired instant, the blow to be hard enough in the early days to strike fire from steel, and in later times to explode a small charge of fulminate. To this end a main spring was necessary as the actuating force. Some of the oldest examples of sporting arms are furnished with a V-spring very like those in use to-day, but it was often placed on the outside of the stock, and acted directly upon the hammer. Fig. 2 may serve to illustrate a crude form of gun lock. A is the hammer (turning upon a pin at A'), B the object upon which it strikes, C the main spring (fixed at C'), D combined sear and trigger working on pivot at D'. It is obvious that if A be forced backward in the direction of

that the exterior hammer might be altogether dispensed with.

One of the most perfect and safe of modern sporting arms is known as the "Invincible Hammerless Gun." It is patented in the United States and Great Britain by the inventors, Messrs. Burkhard and Novotny (No. 288,618). Since it appears to combine in a remarkably perfect manner all the best safety appliances known to gun-makers, with several new and original devices, a partial description of its mechanism is given: Reference to the drawing of the rudimentary gun lock will show that, in order to make its action approximately certain, at least two additional springs are necessary, namely, a sear spring, and a safety spring, the breaking of any of which might prove disastrous or possibly fatal. In the perfected gun the main spring furnishes the sole motive power alike for delivering the blow of the hammer and for engaging or disengaging the safety device. In other words, so long as the main spring is capable of driving the hammer, so long the safety device is efficient: after that it makes no difference whether it is efficient or not. This end is attained by an attachment known as a "safety dog," so arranged that when the hammer is thrown back the "dog" is turned partly upon a pivot and drops its lower foot upon the main spring, in which position it remains until designedly released for firing. Ap-

parently no amount of jarring can disengage this safety arrangement. A drawing of the principal parts of the lock is given herewith (Fig. 3), but for the sake of simplicity some of the devices are omitted, as, for instance, the indicator pins, which show either to eye or touch

forging bars of steel and iron, and the well-known etched surface of such product is a characteristic of most of the best gun barrels. Iron is used mostly for cheap guns. Steel is probably the best material, but it is impossible for any but experts to judge of its quality, and the guarantee

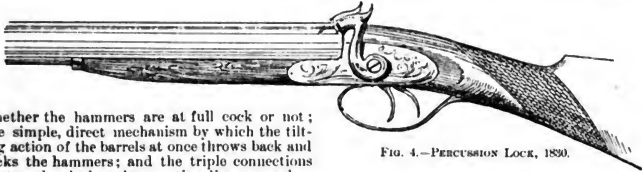


FIG. 4.—PERCUSSION LOCK, 1830.

whether the hammers are at full cock or not; the simple, direct mechanism by which the tilting action of the barrels at once throws back and locks the hammers; and the triple connections that render the barrels exceptionally secure when in position for firing.

As in all the best hammerless guns, the lever that disengages the barrels for loading is upon the bend of the stock, just in rear of the false breech (Fig. 1). This position has been selected after numerous experiments with side and other levers, which are more or less liable to catch upon or be impeded by outside objects.

The invention of choke-bores is of American origin. They were introduced and practically perfected here some years before they made their way into the more conservative English market. They were introduced into England by Mr. Pape, of Newcastle, and were subsequently tested and approved by Mr. Greener in 1874. The choke-bore is in effect a contraction of the interior diameter of the barrel near its muzzle; this contraction is only from five to forty-one one thousandths of an inch, according as the bore is a full or modified choke. The effect of such contraction is obvious. The shot being of necessity crowded together at the moment of leaving the muzzle of the gun are thus sent on their flight in a more compact bunch than when discharged from a true, cylindrical barrel. This undoubted improvement had, like all others, to make its way against prejudice and conservatism. It was held, and no doubt with some degree of truth, that the increased friction at the moment of discharge diminished the effective range of the gun, but

of a trustworthy dealer should always be required in selecting a gun of this kind.

In choosing a gun the first thing to be considered is the weight, which should be such that the sportsman can carry it all day without trouble or fatigue, and can handle it with perfect ease, quickness, and dexterity. Next, is the model. A gun should fit its owner like a coat or a hat: the bend of the stock and its dimensions should correspond with his length of arm, breadth of shoulder, and natural poise of head and neck. The only sure test is repeated trials at aiming. Fix the eye upon an object, either at rest or in motion, and throw the gun up to the shoulder, as in act of firing; if, after repeated trials of this kind, it appears that the gun points true, it may be assumed that it fits; if not, no amount of practice will render it a sure weapon. An expert adviser is to be decided when purchasing a gun. An experienced gun maker or dealer will judge the points of a customer and by certain tests and measurements can make a gun, or can select one, that will fit him. Sportsmen to whom expense is no consideration often have their guns "built" to suit them as regularly as most men have their clothes and boots made to measure. A gun should balance at a point a little in front of the trigger guard, and should have its general weight so distributed that when held against the shoulder and subjected to the jar of discharge it



FIG. 5.—HAMMERLESS LOCK, 1860.

in 1875 a test trial showed that for all distances the choke-bore was superior. At 40 yards, the choke placed from 180 to 200 shot in a 30-inch target, while the cylindrical bore averaged only 130 to 140 shot. The choke-bore, however, calls for better marksmanship, and for this reason is not always sought by sportsmen who are not sure of their aim.

Gun barrels are made of Damascus twist steel, of iron, and of pure steel. Of these the first named is the favorite, partly because of its beautiful external surface, and partly because that surface, to a large extent, guarantees the excellence of the metal. It is made by twisting and

will show no tendency to roll or shift from side to side in the holder's hands.

Whatever objections may be made to the love of gunning—and certainly the desire to kill simply for the sake of killing is inexcusable—it is certain that a very large percentage of men delight in firing guns. So general is this propensity that a large number of tradesmen and artisans gain there livelihood thereby. The diary of the late Lord

Malmesbury (1798 to 1840) affords a basis of computation as to the consumption of materials by an average sportsman. According to his authority, he spent 3,645 days in shooting. During that time he fired 54,187 times, using 750 pounds of powder and 4 tons of shot. He killed 38,221 times, and missed 15,966 times. Assuming that he walked 2½ miles an hour, he covered about 36,200 miles, and during the forty-two years of his shooting experience he was never confined to his bed a single day by sickness or accident. His lordship's record of successful shots has often been exceeded in modern breech-loading days, as many as 10,000 head having been credited to one gun in a single shooting season. A "game-marker," capable of being set in the stock of any gun, is in use which records the number of shots fired or the "head" of game killed by pressure of a spring. It is mainly valuable to match-shooters, or to sportsmen of a statistical turn of mind.

In England 100 brace of birds, shooting over dogs, is considered exceptionally good sport, and about double that number in driving, under like conditions. A "pheasant battue" is a favorite subject for the derision of newspaper reporters of the day, but the phrase is not used at all by genuine sportsmen. A "battue," as it is ironically described by the press, is a very rare occurrence in the British Isles—so, at least, says Sir Ralph Payne Galloway. In the best stocked preserves it is always the purpose of the host, or of the head keeper, to send the game flying as wide and high over the guns as possible. Pheasant shooting, indeed, affords a day's outing and good pay to a considerable number of laborers who are employed as beaters, and who greatly enjoy it. It gives, moreover, permanent employment to a large number of regular game-keepers; it provides thousands of middle-class people with pheasants at the price of chickens, or even less. For instance, during the latest season concerning which records are accessible fine cock pheasants could be bought in London markets at two shillings apiece, whereas, if there were no great shooting days, the price would be a guinea a brace. These great drives, or occasions of shooting, will probably always afford a subject of sarcasm for cockney artists and the writers of leading articles in the sporting newspapers; but in point of fact there is hardly a class in the community that is not more or less benefited by them. In America the conditions are such that these claims are hardly justified. The policy of dealers in the city markets is apparently to keep the price of game far above the reach of ordinary pockets, and this will probably continue to be the case until radical changes take place in our practices regarding game and its preservation. It would seem, indeed, that practical extermination is the destiny of American game. Every improvement in guns reduces the cost of the last preceding improvement, and the conviction that all wild creatures are public property is so deeply implanted in the American mind that no legislative enactments can be properly enforced. The purchase of vast tracts of wild lands by sporting clubs will, no doubt, continue, and stragglers from these great preserves will break bounds and fall victims to pot hunters in season and out of season for many years to come. Skill in the use of firearms is, no doubt, a desir-

able accomplishment in case of war, but deadly weapons in the hands of hair-brained youngsters should be sternly restricted, as well for the security of human life as for reasonable preservation of the wild creatures with which Nature has so plentifully supplied the American continent.

SOUTH CAROLINA, a Southern State, one of the original thirteen; ratified the Constitution May 23, 1788; area, 30,570 square miles. The population, according to each decennial census, was: 249,073 in 1790; 345,591 in 1800; 415,115 in 1810; 502,741 in 1820; 581,185 in 1830; 594,398 in 1840; 668,507 in 1850; 703,708 in 1860; 705,606 in 1870; 995,577 in 1880; and 1,151,149 in 1890. Capital, Columbia.

Government.—The following were the State officers during the year: Governor, John P. Richardson, Democrat, succeeded on Dec. 4 by Benjamin R. Tillman, Democrat; Lieutenant-Governor, William L. Mauldin, succeeded by E. B. Gary; Secretary of State, J. F. Marshall, succeeded by J. E. Tindal; Treasurer, E. R. McIver, succeeded by W. T. C. Bates; Comptroller-General, J. S. Verner, succeeded by W. H. Ellerbe; Attorney-General, Joseph H. Earle, succeeded by Y. J. Pope; Superintendent of Education, James H. Rice, succeeded by W. D. Mayfield; Commissioner of Agriculture, A. P. Patler (this office was abolished by act of the Legislature in December); Railroad Commissioners, D'Arcy P. Duncan, Milledge L. Bonham, who died on Aug. 26, and Eugene P. Jervey; Chief Justice of the Supreme Court, W. D. Simpson, who died on Dec. 26; Associate Justices, Henry McIver and Samuel McGowan.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Abbeville.....	40,515	46,854	6,089
Aiken.....	28,112	31,822	3,710
Anderson.....	33,612	43,696	10,084
Barnwell.....	39,857	44,613	4,756
Beaufort.....	30,176	34,119	3,943
Berkeley.....	.....	55,428	55,428
Charleston.....	102,800	59,908	* 42,892
Chester.....	21,153	26,660	2,507
Chesterfield.....	16,845	18,468	2,123
Clarendon.....	19,190	23,238	4,043
Colleton.....	36,376	40,293	3,917
Darlington.....	34,455	29,194	* 5,261
Edgefield.....	45,844	49,250	3,405
Fairfield.....	27,765	28,509	844
Florence.....	.....	25,027	25,027
Georgetown.....	19,613	20,557	1,244
Greenville.....	57,496	48,410	6,814
Hampton.....	20,744	20,744	1,803
Horry.....	15,574	19,256	3,682
Kershaw.....	21,538	22,961	1,423
Lancaster.....	16,903	20,761	3,858
Laurens.....	28,444	31,610	2,166
Lexington.....	18,564	22,181	3,617
Marion.....	34,107	29,976	* 4,131
Marlborough.....	20,598	23,500	2,902
Newberry.....	26,497	26,134	* 363
Orange.....	16,256	18,665	2,409
Orangeburg.....	41,295	49,393	8,098
Pickens.....	14,380	16,379	1,999
Richland.....	28,573	36,521	7,948
Spartanburg.....	40,409	55,385	14,976
Sumter.....	37,037	48,655	11,618
Union.....	24,680	25,363	683
Williamsburg.....	24,110	27,777	3,667
York.....	30,713	38,831	8,118
Total.....	995,577	1,151,149	155,572

* Decrease.

Finances.—The following is a summary of the receipts and expenditures of the State treasury for the fiscal year: Total receipts, \$1,129,893.41; cash balance, Oct. 31, 1889, \$50,142.82; total, \$1,190,036.23; total expenditures, \$1,112,092.30; cash balance, Oct. 31, 1890, \$77,943.93, as follows: General account, \$3,943.06; Department of Agriculture, \$33,622.27; Sinking Fund Commission, \$39,337.40; special account, \$1,041.20; total, \$1,190,036.24. Of the total receipts, \$722,752.47 were derived from taxes of 1888-'89, \$19,801.51 from taxes of 1889-'90, \$237,149.06 from phosphate royalty (being an increase of \$23,047.10 over the receipts for 1889), \$42,569.85 from the Agricultural Department, \$10,564.24 from sale of escheated property, \$72,800 from temporary loans obtained from banks, and the balance from miscellaneous sources. Of the total expenditures, there were paid for interest on the public debt, \$282,229.36, for liabilities incurred in previous years \$114,992.89, and for current expenses of the State government the following sums: Executive department, \$47,299.25; judicial department, \$67,176.57; legislative department, \$65,891.32; health department, \$10,600; tax department, \$24,806.77; State University, \$47,500; Citadel Academy, \$22,900; Clemson College, \$43,000; penal and charitable institutions, \$131,460.82; Department of Agriculture, \$23,835.58; pensions, \$49,994.20; militia, \$14,000; election expenses, \$7,661.45; railroad commissions, \$7,500; Winthrop Training School, \$5,320; taxes refunded, \$8,669.41; miscellaneous objects, \$79,082.72.

The total State debt on Oct. 31, 1890, amounted to \$6,992,919.49, divided into five classes as follow: First, the Agricultural College scrip amounting to \$191,800; second, the blue 44-per-cent. bonds and stocks, amounting to \$400,000, due in 1928; third, deficiency stock not yet surrendered, amounting to \$759.95, due in 1888; fourth, principal of old bonds and stocks not yet rendered, amounting to \$389,429.22; fifth, consol bonds and stocks, amounting to \$6,010,930.32, due in 1893, of which \$5,442,019.18 are brown consols, and \$568,911.14 are green consols. The Legislature in 1889 passed an act authorizing the refunding of the brown consol bonds and stocks upon certain terms, but it was adjudged by the Attorney-General to be unconstitutional, as the new bonds were to be made payable more than fifty years after date of issue, which is expressly forbidden by Article IX, section 14, of the State Constitution. This defect was remedied by the Legislature of this year in December by an act providing that the new bonds shall be payable within the constitutional period.

Valuation.—The assessed valuation of property for the fiscal year 1889-'90 was \$150,088,552, of which \$88,113,433 was the value of real estate, \$44,069,185 the value of personal estate, and \$17,905,914 the value of railroad property. The total assessment for 1888-'89 was \$145,420,016. The tax rate for that year was 54 mills on each dollar of valuation, and for 1889-'90 there was but a fractional change.

County Debts.—The total debt of South Carolina counties is \$1,141,550, a decrease of \$432,209 in ten years. Of this total all except \$23,000 is a bonded debt. Nearly half of the counties have no debt.

Legislative Session.—The regular annual session of the General Assembly began on Nov. 25 and adjourned on Dec. 24. As the members of each House were nearly all Tillman adherents and farmers by occupation, much interest was aroused regarding the manner in which these representatives of the Tillman movement would carry out their ante-election promises. Their first action was to dispense with the services of legislative officers and employes who had long held their places, and to choose pronounced Tillman followers to succeed them. They rejected United States Senator Wade Hampton, who was a candidate for re-election, and chose as his successor John L. M. Irby, one of the most active workers in the Tillman canvass. The vote on the first ballot in joint convention stood as follows: Irby, 63; M. L. Donaldson, 45; Hampton, 42; John J. Hemphill, 2. On the fifth ballot Irby received 105 votes; Hampton, 42; Donaldson, 10. During the session 235 acts and resolutions were passed, of which only 44 were general. The Department of Agriculture and the office of Commissioner of Agriculture were abolished, and all their powers and duties, except the control of the phosphate industry, were bestowed upon the trustees of the Clemson Agricultural College. An act was passed creating a board of phosphate commissioners, consisting of the Governor, Attorney-General, Comptroller-General, and two citizens of the State to be appointed by the Governor for six years. The board is charged with the exclusive control and protection of the State interest in the phosphate deposits, except that the Comptroller-General shall continue to receive the reports of rock mined and dug and the royalty paid into the State treasury.

An act for the reorganization of the State University provides for the transfer of its Agricultural Department to Clemson Agricultural College, and confines the work of the institution more narrowly to liberal studies. The constitutional amendment abolishing the elective board of county commissioners, which was adopted by the people at the November election, was ratified at this session, and thereby incorporated into the fundamental law. By another act all the trial justices in the State were legislated out of office, and it was provided that future appointments to that office be made by the Governor for a term commensurate with his own term.

Other acts of the session were as follow:

To incorporate the city of Florence.

To provide for the appointment of county board of physicians to examine diplomas of physicians and surgeons.

To punish frauds or misrepresentations in the manufacture, analysis, or sale of fertilizers and commercial manures.

To incorporate the city of Camden.

To amend an act entitled "An Act to provide for the redemption of that part of the State debt known as the brown consol bonds and stocks, by the issue of other bonds and stocks," approved Dec. 24, A. D. 1890.

Accepting the benefits of an act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts now established under the provisions of an act of Congress, July 2, 1862.

Joint resolution to appoint a special commission, consisting of the Governor and Superintendent of

Education, to confer and correspond with the governors and superintendents of education of other Southern States as to the adoption of a uniform system of text-books used in the free schools of the State.

Education.—For the school year ending Aug. 31, the public-school statistics are as follow: School districts, 707; public schools, 3,948; pupils enrolled, 201,260; average attendance, 147,799; teachers employed, 4,364; school-houses, 3,155; value of school buildings, \$487,252. In the past few years there has been a marked increase in the number of school-houses annually constructed. At the Clemson Agricultural College, a laboratory, two houses for professors, and a building for the experiment station have been completed. Further appropriations were granted by the Legislature in December, with the aid of which it is expected that the college can be partially opened in October, 1891.

Charities.—At the State Lunatic Asylum there were 722 patients at the beginning of the fiscal year in November, 1889. During the year 359 patients were admitted and 303 discharged, leaving 778 remaining in November, 1890. Of this number, 445 are white and 333 colored patients. The institution is overcrowded.

At the School for the Deaf and Dumb there was an enrollment of 118 pupils during the year and an average attendance of 90. The cost to the State per pupil for the year was \$146.54.

Penitentiary.—On Oct. 31 there were confined at the State Penitentiary 791 persons, 59 being white and 732 colored. Of these, 50 are required by law to work at the Clemson Agricultural College and 5 are employed about the State Capitol. During the year an average of 196 were employed on the Columbia Canal, and an average of 281 on the various agricultural contracts. The average of women and infirm was about 79, and the balance were employed at necessary work about the institution, there being also a detail of 54 at work on the Charleston, Sumter, and Northern Railroad, in Sumter County.

The cash receipts of the institution for the year, including the balance of \$1,104.52 from the previous year, amounted to \$83,643.82, and the expenditures for all purposes aggregated \$77,388.10, leaving a balance of \$6,055.72, besides nearly \$40,000 worth of farm products.

Late in the year the board of directors, under authority of an act passed at the legislative session in 1889, decided to purchase a farm in Sumter County known as the De Saussure place, containing 3,000 acres, the price being \$25,000. To this place a large number of the convicts will be transferred for employment in agriculture.

State Capitol.—The various appropriations made for completing the State Capitol aggregated \$341,599.90, of which there had been expended up to Oct. 31, 1889, the sum of \$280,105.27. During the year ending Oct. 31, 1890, there was expended the sum of \$47,203.75 making the total outlay \$327,309.02 and leaving a balance of \$14,290.88 unexpended at the latter date.

Phosphate.—During the year ending Aug. 31, 237,150 tons of phosphate rock were removed from the navigable streams of the State, against 212,101 tons in the year preceding. Of this rock, 158,215 tons were shipped to foreign ports, 55,470 to domestic ports outside the State, and 23,465 tons were manufactured into fertilizer

within the State. The royalty paid into the State treasury was 237,150.

Political.—The political contest of this year continued more than nine months. The first important step in this contest was taken late in January, when the executive committee of the Farmers' Association of South Carolina issued a manifesto, in which it arraigned for corruption and incompetency the existing State Administration, charged it with hostility to the interests of the farmers, and urged all dissatisfied Democrats to meet in each county on sales day in March and select delegates to a State convention to be held at Columbia on March 27. At this convention the demands of the farmer were to be formulated and a ticket for State officers put in the field, for ratification or rejection by the regular Democratic State Convention. Nearly all the counties selected delegates, a few being instructed to vote for Benjamin R. Tillman, of Edgefield, for Governor, but the majority being unimstructed. The convention adopted a platform which recognized the allegiance of the delegates to the Democratic party.

The convention selected Benjamin R. Tillman as its candidate for Governor, and James C. Coit for Lieutenant-Governor, it being understood that these nominations were subject to approval or rejection by the Democratic State Convention. No nominations were made for other State officers. One week later candidate Coit announced his withdrawal from the ticket, on the ground that he could not subscribe to the platform, although he was in sympathy with the farmers' movement. Some of the party leaders hostile to Tillman issued a call for a conference of his opponents, at Columbia, on April 23. The conference adopted an address to the people, protesting against the unprecedented action of the Tillman party in calling a convention to forestall and dictate the action of the regular State Convention, and repelling the charges of extravagance and corruption made against the State government. No further action was taken. Early in May Tillman began an active canvass for the gubernatorial nomination, his appearance on the stump creating much enthusiasm. He vigorously attacked the State Administration, and sought to unite the farmers under his leadership against what he termed the ruling aristocracy of the State. To these attacks Attorney-General Earle replied at a meeting at Anderson, where he met Tillman in debate. It was understood that the Attorney-General would be a candidate against the Edgefield champion, and late in May Gen. John Bratton announced that he, too, would seek the nomination. A series of meetings, according to the usual custom, was arranged in the different counties by the Democratic State Committee, at which the candidates should present their claims. At these meetings, the first of which was held on June 10, Gen. Bratton and the Attorney-General, who were in sympathy with the "straight-outs," appeared in defense of the past State administrations, while Tillman continued to find fault and to demand changes in methods of administration. To avoid a division in the party the Democratic State Committee suggested that the delegates to the State Nominating Convention, instead of being elected in ward meetings or conventions, and by *viva voce*

voting, should be chosen by ballot at open primaries throughout the State. To this end it called a State Convention of the party to meet at Columbia, on Aug. 13, for the purpose of making the necessary changes in the party rules, and to transact no other business.

When the August convention met it was found that the Tillmanites outnumbered the "straight-outs" nearly five to one. The former not only refused to adopt the primary election plan of the State committee, but, going beyond the purposes for which the convention was called, undertook to oust the State committee by adopting an entirely new constitution for the party and electing a new State committee. When this was attempted the "straight-outs" left the convention in a body, claiming that it had authority to act only upon the subjects mentioned in the call.

The September convention was called to order by the chairman of the rival State committees, but when the Tillmanites elected their candidate for temporary president, the opposition of the "straight-outs" ceased. Mr. Tillman was nominated for Governor by acclamation, and the following were selected as candidates for the other State officers: for Lieutenant-Governor, Eugene B. Gary; for Secretary of State, J. E. Tindal; for Treasurer, W. T. C. Bates; for Comptroller, W. H. Ellerbe; for Attorney-General, Y. J. Pope; for Superintendent of Education, W. D. Mayfield; for Adjutant-General, Hugh L. Farley. The platform contains the following:

We demand that our State Legislature shall abolish the Board of Agriculture; that the privilege tax on fertilizers and everything appertaining to agriculture or mechanics or industrial education, including the agricultural stations, be placed in charge of the trustees of the Clemson Agricultural College, and upon said trustees shall devolve all duties now performed by the present Board of Agriculture, except the control of the State phosphate interests.

We demand that the railroad commission shall be given all the power needed to protect the rights and interests of the people, without injuring the railroads, and that the commissioners be elected by the people.

We demand that there shall be a survey of the State's phosphate beds, and their classification into three grades.

We demand that a constitutional convention be called to give us an organic law framed by our own people.

On Sept. 17 the Republicans met in State Convention at Columbia, and decided to leave the nomination of candidates in the hands of the State committee. A platform was adopted containing the following:

We denounce and condemn in unmeasured terms the suppression and prostitution of the ballot in South Carolina, together with the unlawful agencies and iniquitous methods used in defeating the true will of the people, thereby denying to them a fair and honest representation in the affairs of the Government, both State and National.

The educational advantages now offered by the State are totally inadequate and deficient, the school term being of entirely too short a duration to insure beneficial results, and the teachers in many instances being incompetent and makeshifts unworthy to be intrusted with the duties and responsibilities of so sacred and important a calling.

A call was issued late in September for a State convention to meet at Columbia on Oct. 9, for the

purpose of placing an independent Democratic ticket in the field. At this convention, Judge A. C. Haskell was nominated for Governor, W. D. Johnson for Lieutenant-Governor, Edwin Harper for Secretary of State, W. A. Ancrum for State Treasurer, Edmund Bacon for Comptroller, Joseph W. Barnwell for Attorney-General, E. B. Ragsdale for Superintendent of Education, and R. N. Richburg for Adjutant-General. An address to the people was issued attacking Tillman and pledging the nominees to the support of Democratic principles.

For Governor, Tillman received 59,159 votes, and Haskell 14,828. The other candidates on the Tillman ticket were elected by nearly the same vote. The members of the Legislature, elected at the same time, were all Democrats and largely followers of Tillman. An amendment to the State Constitution, abolishing the boards of county commissioners, was adopted at this election by a vote of 23,541 yeas to 18,253 nays. In December the amendment was ratified by the Legislature and became a part of the Constitution.

Seven Democratic Congressmen were elected.

SOUTH DAKOTA. A Western State, admitted to the Union on Nov. 3, 1889; area, 77,650 square miles; population, according to the census of 1890, 328,808. Capital, Pierre.

Government.—The following were the State officers during the year: Governor, Arthur C. Mellette, Republican; Lieutenant-Governor, J. H. Fletcher; Secretary of State, A. O. Ringsrud; Treasurer, W. F. Smith; Auditor, L. C. Taylor; Attorney-General, Robert Dollard; Superintendent of Public Instruction, G. L. Pinkham; Commissioner of School and Public Lands, O. H. Parker; Justices of the Supreme Court, Dighton Corson, A. G. Kellam, and John E. Bennett.

Finances.—The Governor, in his message to the Legislature of 1891, comments as follows upon the straitened financial condition of the new State: "There are now outstanding against the State about \$46,000 in warrants not paid for want of funds, bearing 7 per cent. interest, which are already subject to a heavy discount in the market. This condition exists after final resort to borrowing an additional \$100,000 during the past year and increasing the public indebtedness to the maximum limit under the Constitution."

From Nov. 5, 1889, to Nov. 30, 1890, the receipts of the general fund were \$500,542.70; the balance in the Treasury on Nov. 30, 1890, was \$10,652.88. The total appropriations for 1890 made by the first Legislature amount to \$443,889.71. In addition, there has been paid out by the Treasurer, without special act of the Legislature but under color of authority from the Territorial statutes, the sum of \$26,433.43. These amounts aggregate \$470,323.14, and constitute the sum necessary to meet the current expenditures of the State for one year, subject to a possible reduction of \$54,870.38.

This deduction leaves \$415,452.76 as the present annual State expenditure; there is but \$243,000 of revenue to meet this amount.

The bonded indebtedness of the State is \$116,600 at 6 per cent., 124,000 at 5 per cent., \$317,100 at 4½ per cent., \$302,500 at 4 per cent., and 160,000 at 3½ per cent., making a total of \$1,020,-

230, with an annual interest and sinking fund charge of about \$54,000.

County Debts.—The total debt of South Dakota counties is \$2,690,484, nearly all of which has been contracted in the past ten years. The bonded debt is \$2,219,077, and the floating debt \$471,407.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880 of the Dakota counties now embraced within the limits of the State:

COUNTIES.	1880.	1890.	Increase.
Aurora.....	63	8,045	4,976
Beadle.....	1,290	9,566	8,296
Bon Homme.....	5,458	9,057	3,599
Boreman.....	534	(a)	* 54
Brookings.....	4,965	10,132	5,167
Brown.....	853	16,855	16,502
Brule.....	288	6,787	6,499
Buffalo.....	63	993	930
Butte.....	.....	1,987	1,037
Campbell.....	30	3,510	3,160
Charles Mix.....	407	4,178	3,771
ClotEAU.....	.....	8	8
Clark.....	114	6,728	6,614
Clay.....	5,001	7,509	2,508
Codington.....	2,156	7,037	4,881
Custer.....	995	4,891	3,896
Davison.....	1,246	5,119	4,193
Day.....	97	9,168	9,071
DeSoto.....	.....	41	40
Deuel.....	2,302	4,574	2,272
Dewey (a).....	.....	.....	.....
Douglas.....	6	4,603	4,594
Edmunds.....	.....	4,399	4,399
Ewing.....	.....	15	16
Fall River.....	.....	4,475	4,478
Faulk.....	4	4,062	4,053
Grant.....	3,010	6,514	3,504
Gregory.....	.....	295	295
Hamlin.....	608	4,625	3,992
Hand.....	153	6,546	6,393
Hanson.....	1,301	4,247	2,946
Hardling.....	.....	167	167
Hughes.....	268	5,914	4,776
Hutchinson.....	5,573	10,159	4,586
Hyde.....	.....	1,850	1,850
Jackson.....	.....	30	31
Jerauld.....	.....	3,665	3,665
Kingsbury.....	1,192	8,542	7,400
Lake.....	2,667	7,548	4,881
Lawrence.....	13,248	11,673	* 1,575
Lincoln.....	5,896	9,143	4,247
Lugenbeil (a).....	.....	.....	.....
Lyon.....	124	233	109
McCook.....	1,283	6,148	5,165
McPherson.....	.....	5,910	5,911
Marshall.....	.....	4,544	4,544
Martin.....	.....	7	7
Meade.....	.....	4,610	4,610
Meyer.....	115	(a)	* 115
Minor.....	361	5,165	4,892
Minnehaha.....	8,221	21,879	13,658
Missoula.....	3,915	5,941	2,026
Nowlin.....	.....	149	149
Pennington.....	2,244	6,440	4,296
Potter.....	.....	2,910	2,910
Pratt.....	.....	23	23
Presidio.....	.....	181	181
Pyatt.....	.....	31	34
Rinehart (a).....	.....	.....	.....
Roberts.....	.....	1,997	1,997
Rusk.....	46	.....	* 46
Saunders.....	.....	4,610	4,610
Schnass.....	.....	.....	.....
Seabey.....	.....	32	31
Shannon.....	117	(a)	* 113
Spink.....	477	10,581	10,104
Stanley.....	793	1,023	235
Sterling.....	.....	96	96
Sully.....	266	2,112	2,116
Todd.....	203	188	* 15
Tripp (a).....	.....	.....	.....
Turner.....	5,320	10,246	4,926
Union.....	6,813	9,113	2,317
Wagner.....	.....	.....	.....

COUNTIES.	1880.	1890.	Increase.
Walworth.....	46	2,153	2,107
Washburn.....	.....	.....	.....
Washington.....	.....	40	40
Yankton.....	8,380	10,444	2,064
Ziebach.....	.....	510	510
Sisseton and Wahpeton Indian reservation.....	907	.....	* 297
Total.....	98,268	328,805	230,540

(a) No returns.

* Decrease.

Legislative Session.—The adjourned first session of the Legislature met on Jan. 7 at Pierre and concluded its work on March 7. The State Treasurer was authorized to issue and sell 4-per-cent. bonds of the State to the amount of \$100,000, the proceeds to be used in meeting casual deficits caused by the failure of revenue. When the portion of floating indebtedness of the Territory of Dakota, which the State of South Dakota is to assume under the terms of the admission act, has been ascertained, the Treasurer is further authorized to issue and sell 4-per-cent. bonds in amount sufficient to raise money to pay such indebtedness. In order to enlarge the debt limit, the following amendment to the State Constitution was proposed for submission to the people at the November election: "For the purpose of defraying extraordinary expenses and making public improvements, or to meet a deficit or failure in revenue, the State may, in addition to pre-existing debts, contract debts never to exceed in the aggregate \$500,000, except to repel invasion, suppress insurrection, or defend the State or United States in war." It is provided that a State tax shall be levied each year sufficient to meet the ordinary estimated expenses of the State and any deficiency of the previous year, to meet the annual interest on the State debt, and to provide a sinking fund for its payment at maturity. The tax rate for each year, sufficient for these purposes, shall be fixed by the State Board of Equalization, which is also directed to equalize the assessments in the various counties. The same board shall assess the property of all railroad, telegraph, and telephone companies in the State, and these shall pay the same tax as other property. Provision was made for submitting to the people at the November election a proposed constitutional amendment permitting woman suffrage, and a proposed amendment excluding from suffrage Indians who sustain tribal relations, who receive support in whole or in part from the Government of the United States, or who hold untaxable lands in severalty. Pursuant to section 2 of Article XX of the Constitution, an act was passed requiring the people to vote at the November election for a permanent location of the State capital.

A stringent law was enacted for the suppression of "trusts." Other acts of the session were as follow:

- Creating a State Board of Charities and Corrections.
- Creating a Board of Regents of Education.
- Raising the age of consent in females from fourteen to sixteen years.
- Creating a State Board of Equalization.
- To establish a Board of Pardons.
- To create a Bureau of Labor Statistics, and to provide for the appointment of a Commissioner of Labor.
- Providing for the uniform organization of townships.

-Providing a general law for the incorporation of cities. All cities of 10,000 inhabitants or over shall be cities of the first class; cities having between 2,000 and 10,000 people shall be cities of the second class; and all others shall be cities of the third class.

Regulating business of insurance companies.
To provide for the incorporation of town-site companies.

Regulating the business of commercial agencies, credit companies, and guarantee associations.

Authorizing organized counties to issue warrants to pay deficiencies due for building court-houses and jails.

Requiring instruction in the public schools as to the nature and effect of alcoholic drinks and narcotics upon the human system.

Abolishing the State Board of Education and conferring the powers thereof upon the Superintendent of Public Instruction.

To prohibit the killing, trapping, or ensnaring of quail for three years.

Requiring the commissioners of each county to offer a bounty of \$3 for each wolf killed in the county.

Repelling the law of 1887 prohibiting the destruction of beaver.

Creating a State inspector of oils.

To encourage the construction of artesian wells.

Creating the office of State engineer of irrigation.

Regulating marriage, and requiring a license to be obtained from the clerk of the county court prior to any marriage.

Creating a State Meteorological Bureau.

Creating a State inspector of mines.

Providing for a State Board of Pharmaceutical Examiners.

Declaring that any person, whether citizen or alien, may take, hold, and dispose of property, real or personal, within the State.

Prohibiting the sale, giving, or furnishing of tobacco in any form to children under sixteen years of age.

Offering a bounty of one cent a pound for raw, granulated, or refined sugar, and two cents a gallon for sirup or molasses, manufactured in the State from beets grown in the State.

Offering a bounty for the planting and cultivation of forest trees.

Education.—The State University for the past school year shows a total enrollment of 435 students and an average attendance of 316. The enrollment for the year at the Spearfish Normal School was 132, and at the Madison Normal School about 140. The average attendance at the School of Mines for the year was 16. This institution does not attract the expected number of students, and in view of the large expense of its maintenance, can not be called successful. At the Agricultural College the average attendance was 140. Nearly all the expenses of this institution can be defrayed from the appropriations of Congress in aid of such colleges.

Charities.—On Nov. 30, 1889, the State Hospital for the Insane contained 235 patients. There were admitted during the year ensuing 104 patients, and discharged 82, leaving 257 remaining on Nov. 30, 1890. At the School for Deaf Mutes at Sioux Falls there were 35 pupils on Nov. 30.

The Soldiers' Home at Hot Springs was opened on Nov. 27, and before the close of the year 40 disabled veterans had been admitted. A substantial building has been erected at a cost of \$52,323.63.

The blind children of the State are supported in the Iowa State School for the Blind, at a per

capita cost of about \$300 a year, including tuition, clothing, and supplies. The total cost of these children for the year was \$1,051.03.

Penitentiary.—The Penitentiary at Sioux Falls contained 96 prisoners on Dec. 1, of whom 95 were men and 22 were United States prisoners. The parole of prisoners as provided by the Legislature this year has reduced the number of inmates. The total expenditures for the year were \$34,429.36, of which the sum of \$33,610.68 was paid out of the State treasury. The convicts were employed to advantage upon the farm and in the stone quarry on the Penitentiary grounds.

The report of the Reform School at Plankinton shows that there were 43 pupils at the beginning of this year, that 28 were admitted from Jan. 1 to Nov. 30, and that 9 were discharged, leaving 62 in the school.

Crops.—The State Commissioner of Immigration makes the following estimates of agricultural products for 1890: Wheat, 17,066,600 bushels; corn, 17,492,242 bushels; oats, 17,202,590 bushels; rye, 291,880 bushels; barley, 2,314,970 bushels; buckwheat, 10,764 bushels; flax, 2,757,275 bushels; potatoes, 1,479,535 bushels.

Prohibition.—The prohibitory law passed by the Legislature this year to enforce Article XXIV of the State Constitution provides that "any person, association, or corporation who shall within the State, directly or indirectly, manufacture any spirituous, malt, vinous, fermented, or other intoxicating liquor, or shall import any of the same for sale or barter as a beverage, or shall keep for sale or sell or offer for sale or barter or trade, any of such intoxicating liquors as a beverage, shall for the first offense be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not less than \$100, nor more than \$500, and be imprisoned in the county jail not less than sixty days nor more than six months and a trial and conviction in any court shall constitute the first offense; and for the second and every successive offense shall be deemed guilty of a felony and be punished by imprisonment in State prison for a period of one year, provided that registered pharmacists under the laws of the State may sell intoxicating liquors for medical, mechanical, sacramental and scientific purposes as herein provided." Druggists' permits shall be granted by the county court, but only on petition signed by the applicant and by twenty-five reputable freeholders and twenty-five reputable women (who shall certify to the good character of the applicant and his fitness for the business) and on compliance by the applicant with numerous other provisions of the statute. Numerous restrictions are placed upon the sale of liquor by permit holders. Common nuisances are defined and authority is given to prosecuting officers for their suppression. A penalty is imposed for causing the intoxication of another person. The giving away of intoxicating liquors, or any shifts or device to evade the provisions of the act, shall be deemed an unlawful selling within the meaning of the act. The appearance in public of any person in an intoxicated condition is punishable. Whenever any relative of any person shall notify a druggist that such person uses intoxicating liquor as a beverage, and shall forbid the sale thereof to

him, it shall be unlawful for such druggist to furnish such person with any liquor whatever on any terms. Ample authority is given to prosecuting officers to enforce these provisions.

A few days prior to May 1, the date on which the act should take effect, the decision of the United States Supreme Court in the case of *Leisy vs. Hardin* was announced, and many of the liquor dealers who had arranged to close their saloons on that day determined to continue them as "original-package" shops. After the passage of the Wilson bill in August, there was a general closing of these places, but, owing to conflicting decisions of the United States district and circuit courts on the question whether that bill could revive the provisions of the prohibitory law and make them effective against original packages, without being re-enacted, these shops again appeared, and their suppression could not be seriously undertaken by the State officials pending the decision of this point by the United States Supreme Court. The State law has, therefore, not been enforced in those places most needing its enforcement. (See ORIGINAL-PACKAGE DECISION, in this volume.)

Drought Sufferers.—Late in 1889 reports reached the Governor that the drought of the preceding season, and consequent loss of crops, had produced widespread destitution in the central and western counties of the section east of Missouri river. The facts were laid before the Legislature in January, but that body could give no permanent relief, as the State Constitution prevents the State and the counties borrowing money for aid in such cases. Seed grain was needed for use in the spring, and in many cases food must be supplied. On Jan. 22 the Legislature passed a resolution appointing a committee to confer with the warehousemen of Minneapolis and secure, if possible, special rates for seed grain. Meanwhile Gov. Mellette had communicated with the boards of trade in Chicago and other Western cities, asking for aid in raising a relief fund of \$50,000. On Feb. 18 he was authorized by the Legislature to continue these efforts, soliciting aid not only in the State but from the large cities of the West, and to appoint a committee of five to assist him in distributing the money and supplies received. Late in the same month an act was passed authorizing the county commissioners of each county to issue warrants not exceeding in amount 1 per cent. of the county valuation, which should be given in payment for seed grain purchased, such grain to be loaned to needy settlers, the county retaining a lien on the crop therefor. On March 3 a convention met at Huron, at which delegates from the counties most interested assembled to devise further means of relief. The Governor was present, and a committee was appointed to co-operate with the committee of five appointed by the Governor in soliciting contributions. It was estimated that seed grain worth \$570,000 would be needed, of which the county commissioners under the law above mentioned could supply about three fourths. The railroads agreed to transport such grain in some cases free, in others at half rates. About the middle of March Gov. Mellette announced that large sums in addition to what had been already collected would be needed from outside the State

to purchase sufficient seed grain and feed for stock, and the seed commission was divided into sub-committees who were dispatched to the principal cities of the neighboring States. Their efforts were partially successful, and at a convention in Huron on April 2 seed grain to the value of \$45,000 was apportioned among 25 counties in a manner satisfactory to the representatives of those counties. The efforts of Gov. Mellette and his committees continued until the spring planting was completed, and large additional quantities of seed were distributed in places where the greatest need prevailed.

The Sioux Reservation.—On Feb. 10 President Harrison issued his proclamation, announcing that the various tribes of the Sioux nation had given their consent to the act of Congress providing for the purchase by the United States of a large portion of their reservation and that the lands so acquired were open to settlement. In anticipation of this event, large numbers of people had gathered at Pierre, Chamberlain, and other points on the borders of the reservation, and were only deterred from entering prematurely by the presence of United States troops. When these were withdrawn the intending settlers, most of whom, with their teams and outfits, were stationed on the eastern bank of the Missouri river, rushed wildly across the stream and over the prairie, each striving to be first to reach a coveted location. Although it was midwinter, the bleak prairie was soon dotted with the rude homes of thousands of settlers, and in a few months the best lands had been almost entirely taken up. The section of the reservation thrown open to occupancy consists of the counties of Nowlin, Ziebach, Sweeney, DeLano, Rinehart, Choteau, Martin, and Wagner entire, and portions of Stanley, Presidio, Lyman, Pratt, Sterling, Jackson, and Washington.

Political.—At a State convention of the Farmers' Alliance and Knights of Labor at Huron, on June 6, it was decided by a vote of 413 to 83 that a new political party should be formed under the auspices of these organizations. As soon as this vote was reached the convention adjourned, and a meeting to take political action was organized. A committee on resolutions reported in favor of woman suffrage, a graded service pension, prohibition of the liquor traffic, a tariff for revenue only, and against the acceptance of passes by legislators and other public officials. This report was adopted, and the name of "Independent Party" was given to the new movement. It was decided to call a convention at Huron on July 9 for the purpose of selecting candidates for State offices.

On June 11 a State convention of the Democratic party met at Aberdeen, and nominated the following State ticket: For Governor, Maris Taylor; for Lieutenant-Governor, Peter Couchman; for Secretary of State, C. H. Freeman; for Treasurer, H. P. Horswill; for Auditor, L. A. Weeks; for Attorney-General, S. B. Van Buskirk; for Superintendent of Public Instruction, W. A. Buxton; for Commissioner of School and Public Lands, E. H. Everson; for Commissioner of Labor, T. C. Kennelly; for Members of Congress, C. M. Thomas and W. I. Quigley. The platform opposes all sumptuary legislation, either by the State or National Government;

favors the resubmission of the prohibition question to a vote of the people; opposes woman suffrage; favors a service pension to all deserving veterans of the national army; advocates the maintenance of the common schools at the highest point of excellence; and arraigns Gov. Mellette of having disgraced the State by organizing bands of beggars and advertising it as an arid waste peopled by paupers.

On July 9 the State convention of the Independent party met at Huron and made the following nominations: For Governor, H. P. Loucks, the President of the State Farmers' Alliance; for Lieutenant-Governor, A. L. Van Osdel; for Secretary of State, H. M. Hanson; for Treasurer, Frank B. Roberts; for Auditor, J. R. Lowe; for Attorney-General, S. W. Co-sand; for Superintendent of Public Instruction, Eugene A. Dye; for Commissioner of School and Public Lands, F. F. Meyer; for Commissioner of Labor, W. L. Johnson; for Members of Congress, Fred C. Zipp and F. A. Leavitt.

The Republican State Convention met at Mitchell, on Aug. 27, and nominated the following ticket: For Governor, Arthur C. Mellette; for Lieutenant-Governor, George H. Hoffman; for Secretary of State, A. O. Ringsrud; for Treasurer, W. W. Taylor; for Auditor, L. C. Taylor; for Attorney-General, Robert Dollard; for Superintendent of Public Education, Cortez Salmon; for Commissioner of School and Public Lands, Thomas H. Ruth; for Commissioner of Labor, R. A. Smith; for Members of Congress, John R. Gamble and J. A. Pickler. The platform favors a service pension law, and a law by which "the entire product of our silver mines" may be utilized as money, denounces "trusts," and further declares:

We urge upon the General Government to extend prompt and liberal aid to the practical establishment of a system of irrigation by means of artesian wells within the artesian basin of this State.

We recognize the right of labor to organize for its protection.

We favor the Australian ballot system, or such election laws as will guarantee to every voter the greatest secrecy in the casting of his ballot.

Prohibition being adopted by a vote of the people as a part of the fundamental law of the State, we pledge the party to its faithful and honest enforcement.

Before the election the name of F. W. Clark was substituted for that of C. M. Thomas for Member of Congress on the Democratic ticket. In the canvass the new Independent party showed unexpected activity, attracting large numbers of the agricultural class to its support; but, although its growth was largely at the expense of the Republican party, the strength of that party was so great that its entire ticket was elected by a considerable majority. For Governor the vote was: Mellette, 34,487; Taylor, 18,484; Loucks, 24,591. For members of Congress the following vote was cast: Gamble, 35,553; Pickler, 35,456; Clark, 17,527; Quigley, 17,766; Leavitt, 24,907; Zipp, 24,805. Three constitutional amendments submitted to the people at this time were defeated. On the amendment to increase the State debt limit to \$500,000, in addition to the Territorial debt, the vote was: yes, 22,760; no, 53,619; on the amend-

ment to permit woman suffrage, the vote was: yes, 24,072; no, 45,682; and on the amendment excluding certain Indians from the suffrage to vote was: yes, 29,053; no, 39,622. For permanent location of the State capital, the city of Pierre received 41,896 votes, and the city of Huron 34,252.

Members of the Legislature were chosen as follows: Senate, Republicans 23, Democrats 7, Independents 14; House, Republicans 60, Democrats 19, Independents 45.

SPAIN, a constitutional monarchy in southern Europe. The royal prerogative is exercised during the minority of King Alfonso XIII, born May 17, 1886, the posthumous son of Alfonso XII, who died Nov. 25, 1885, by the Queen mother, Maria Christina, daughter of the late Archduke Karl Ferdinand, of Austria, who took the oath as Queen-Regent on Nov. 26, 1885, to serve during the minority of her daughter, Maria de las Mercedes, who was declared Queen on her father's death, and on the birth of a male heir took a new oath to act as Regent for the King, who succeeded his sister by right of his birth. The Cabinet of ministers at the opening of the year was composed of the following members: President of the Council, Mateo Sagasta; Minister of Foreign Affairs, Marquis de Vega de Armijo; Minister of Justice, J. Canalejas; Minister of Marine, Admiral Arias; Minister of Finance, V. Gonzalez; Minister of War, Gen. Chinchilla; Minister of the Interior, Ruiz Capdepon; Minister of Commerce and Agriculture, Count de Xiquena; Minister of the Colonies, M. Becerra.

Area and Population.—Continental Spain has an area of 191,100 square miles, and its population in 1887 was 16,945,786. Including the Canary and Balearic Islands and minute territories on the north and west coast of Africa that form an integral part of the kingdom, the entire area is 197,670 square miles, and the population present at the time of the census was 17,550,246, the legal population being 17,650,254. There were only 25,824 resident foreigners.

Finances.—The budget estimates for the year ending June 30, 1891, make the total revenue 805,551,387 pesetas or francs, and the expenditure 810,663,413. Of the receipts, 269,549,110 pesetas are the produce of direct taxes, 298,985,000 of customs, 170,856,000 of stamps and state monopolies, 35,571,277 of receipts from national property, and 30,590,000 of other sources of income. The disbursements are distributed under the various heads, as follow: Civil list, 9,500,000 pesetas; Legislature, 1,749,205 pesetas; public debt, 282,803,189 pesetas; judicial expenses, 1,888,733 pesetas; indemnities and pensions, 52,481,545 pesetas; presidency of the Council of Ministers, 1,384,217 pesetas; Ministry of Foreign Affairs, 5,160,692 pesetas; Ministry of Justice, 56,758,958 pesetas; Ministry of War, 146,220,530 pesetas; Ministry of the Interior, 29,167,393 pesetas; Ministry of Marine, 32,088,598 pesetas; Ministry of Public Works, 88,269,724 pesetas; Ministry of Finance, 19,104,714 pesetas; costs of collection of taxes and revenues, 84,085,915 pesetas.

The amount of the public debt on Jan. 1, 1889, was 6,257,268,482, paying interest, mostly at 4 per cent., of the amount of 235,124,811 pesetas. The floating debt on Aug. 1, 1890, was nearly 270,000,000 pesetas.

The Army.—Every Spaniard of the age of twenty is liable to serve three years in the active army, unless he pays 1,500 pesetas for exemption. After completing the term of active service he is enrolled in the active reserve for three years, and then for six years in the second reserve.

The following figures give the peace effective in 1899: Infantry, 83,808 men; cavalry, 13,968 men, with 11,887 horses; artillery, 11,340 men, with 392 guns; engineers, 302 officers and 4,279 men; administrative corps, 1,185 men; sanitary corps, 433 surgeons, 81 pharmacists, and 1,185 soldiers; territorial troops in the Canaries, 731 men; Ceuta volunteers, etc., 305 men; total, 118,753 men. The war strength was reported to be 805,400 men, comprising 734,680 infantry; 23,300 cavalry, with 18,500 horses; 30,350 artillery, with 460 guns; 7,500 engineers; 1,900 workmen; 670 sanitary troops; and 7,000 territorial troops, exclusive of the forces in the colonies.

The Navy.—The fleet of war in 1890 consisted of 1 new turret ship, the "Pelago," with 20-inch plates, 1 other first-class vessel of recent construction, 3 armored broadside ships of antiquated type, 2 monitors, 3 deck-armored cruisers, 1 torpedo catcher, 14 torpedo boats, 1 aviso, and 12 gunboats. There were 5 first-class, and 2 second-class vessels not yet ready for the sea, 3 of the first class on the stocks, and 7 of the first, 1 of the second, and 3 of the third class on which work had been begun. Of the vessels building, or awaiting armaments, 3 are belted cruisers of 7,000 tons and 13,000 horse-power, capable of making 19 knots; 3 are belted cruisers of 6,765 tons and 15,000 horse-power, designed for a speed of 20 knots; and 5 are deck-protected cruisers. The programme of construction includes 16 steel sea-going torpedo boats, 90 first-class, and 42 second-class torpedo boats for coast defense, 6 torpedo gunboats, and 6 third-class gunboats. The "Infanta Maria Teresa," one of the first-class belted cruisers, was launched on the Nervion on Aug. 31, 1890. Her speed at natural draught will be 18 knots. The armament will consist of 2 12-inch and 10 3-inch guns, 8 quick-firing 6-pounders, 8 revolving 3-pounders, and 8 torpedo tubes.

Commerce.—The total value of imports in 1888 was 716,085,000 pesetas, and of exports 763,104,000 pesetas. They were divided among the countries of origin and destination in the following proportions, values being given in pesetas:

COUNTRIES.	Imports.	Exports.
France.....	211,800,000	352,400,000
Great Britain and Gibraltar.....	122,200,000	181,600,000
Germany.....	57,800,000	11,700,000
Belgium.....	27,700,000	14,200,000
Portugal.....	7,500,000	24,300,000
Sweden and Norway.....	25,000,000	1,600,000
Russia.....	21,600,000	400,000
Italy.....	17,100,000	9,500,000
Turkey.....	13,300,000	.....
Netherlands.....	.....	15,100,000
America.....	14,200,000	119,500,000
Philippines.....	14,300,000	45,400,000
Northern Africa.....	5,700,000	7,300,000
Other countries.....	47,900,000	18,600,000
Total.....	716,100,000	763,100,000

The values, in pesetas, of the chief imports were as follow: Cotton, 57,242,000; grain and

flour, 43,780,000; coal, 31,257,000; timber, 29,686,000; sugar, 29,353,000; codfish, 25,040,000; woollens, 24,711,000; machinery, 21,585,000; tobacco, 21,420,000; iron, 19,232,000; animals, 18,208,000; petroleum, 16,655,000; hides and skins, 15,845,000; linen fiber and thread, 15,091,000; chemicals, 14,365,000; railroad and ship-building materials, 13,494,000; cacao, 12,805,000; silk manufactures, 12,519,000; cotton goods, 11,193,000. The following were the values of the principal exports of Spanish products: Wine, 293,559,000; copper, 59,639,000; iron, 44,644,000; lead, 44,203,000; cork, 20,893,000; oranges, 18,898,000; dried raisins, 17,077,000; animals, 16,816,000; wool, 15,580,000; shoes, 12,975,000; olive oil, 10,223,000; esparto grass, 9,065,000; grapes, 8,595,000. Of the imports, 38 per cent. were products of agriculture, 7.9 per cent. of pastoral industries, 5.8 per cent. of fisheries, 6.8 per cent. of forest industries, 15.5 per cent. of mines, and 26 per cent. of manufacture. Of the domestic exports, 62.4 per cent. were agricultural, 5.7 per cent. pastoral, 3.6 per cent. forestry, 26 per cent. mineral, and 2.3 per cent. industrial products.

Navigation.—The number of vessels entered at the ports in 1889 was 53,549, of 22,346,195 tons, and of these 38,852, of 9,995,333 tons, were of Spanish registry; 14,222, of 12,346,195 tons, were foreign merchant vessels; and 475, of 563,935 tons, were ships of war.

The mercantile navy in 1886 numbered 1,450 sailing vessels of above 50 tons, having an aggregate displacement of 269,578 tons, and 356 steamers of 260,308 tons, not including those below 100 tons. In 1888 there were 380 steamers of 388,074 tons.

Communications.—The railroad system in 1888 had a total length of 9,669 kilometres or 6,044 miles, and 2,000 kilometres more were projected or begun. The railroads are the property of private companies, which have received subventions from the Government amounting in 1884 to 641,917,235 pesetas. In July a long projected line to connect the seaport of Almeria with the railroad system by a junction at Linares was begun.

The number of letters that went through the post-office in 1888 was 99,750,000 domestic and 12,356,000 foreign; of post-cards, 918,000 domestic and 218,000 foreign; of printed inclosures and samples, 4,121,000 domestic and 15,813,000 foreign; the value of money letters, 118,527,000 pesetas for Spain, and 25,122,000 pesetas from or for foreign parts. The receipts of the post-office amounted to 19,743,360, and the expenses to 12,380,186 pesetas.

The telegraph lines in 1887 had a length of 18,419 kilometres or 11,512 miles, with 46,187 kilometres or 28,870 miles of wire. The number of dispatches in 1886 was 3,549,860, one quarter of which were international.

Cabinet Crisis.—In forming his Cabinet after the death of Alfonso XII (see "Annual Cyclopaedia" for 1885, page 656), Señor Sagasta endeavored to unite the incongruous divisions of the Liberal party, and by promising reforms to the Advanced section and delaying the performance of his promises to please the Conservative section he kept the party together and for more than four years averted an open conflict, though

one after another the representatives of the discordant views withdrew their support of his policy while still acknowledging him as leader of the party. The advocates of limited and of universal suffrage, the friends of the principle of impartial obligatory military service, and those who wished to retain substitution and the purchase of exemption, the Democrats who had been Republicans and the faithful adherents of the Bourbon dynasty, the Protectionists and the Free Traders, were elements that could not be long kept in harmonious co-operation by concessions or compromises. Martos, Romero Robledo, Cassola, Gamazo, Montero Rios, and others who had been Cabinet ministers or parliamentary supporters of Sagasta, seceded and formed independent groups, and at length they and the military politicians, such as Martinez Campos, Gen. Cassola Lopez Dominguez, and others, became so impatient to carry out their ideas that the Sagasta Government could no longer maintain itself. The Premier's desire to negotiate and compromise with the "conspirators" was opposed by a part of his Cabinet, and the crisis that began on Jan. 2, when Señor Sagasta placed the resignation of the Cabinet in the hands of the Queen-Regent, lasted nearly three weeks. During this period the King was very sick, and at one time his life was despaired of. This circumstance tended to keep political passions in check and also protracted the crisis, as the Queen could not give her attention to political matters. On Jan. 20 a Cabinet was constituted as follows: Premier without portfolio, Señor Sagasta; Minister of Foreign Affairs, Marquis de la Vega de Armijo; Minister of War, Gen. Bermudez Reina; Minister of Finance, Señor d'Eguilior; Minister of the Interior, Señor Capdepon; Minister of Justice, Señor Puigcerver; Minister of Marine, Admiral Juan Romero; Minister of Commerce and Agriculture, Duke de Veragua; Minister of the Colonies, Señor Gullon. Señor Sagasta would not consent to return to office until the President of the Chamber, Alonso Martinez, had tried and failed to form a coalition ministry, and in reconstructing his Cabinet he made no attempt to conciliate his chief Liberal opponents, Martos and Romero y Robledo.

Politics and Legislation.—The Cortes held no session during the ministerial crisis. The new Minister of War declared for universal liability to serve personally in the army, and promised a bill to that effect. The bill to confer the right of suffrage on every Spaniard of full age who is in possession of civil rights was passed in the Chamber of Deputies on Jan. 24 by 143 against 31 votes, the Ministerialists, the seceding Liberals, the Democrats, and the Republicans of all shades voting in its favor. The Conservatives, who numbered 74 in the Chamber, had abandoned the opposition that had long obstructed this measure, the defeat of which would have spurred the Republicans to active warfare against the monarchy. Señor Canovas del Castillo had indeed expressed approval of the principle of universal suffrage. The first Cortes of the reign of Alfonso XII abolished equal and universal suffrage, replacing it by a complicated system by which the electoral privilege was shared by certain public bodies, such as univer-

sities and provincial chambers, and the voting qualifications of individuals were restricted both by the tax-paying limitation and the criterion of social status. The repeal of universal suffrage was the most unpopular act of the monarchy, and its restoration was expected to rally in greater numbers the Republicans to the support of the dynasty, strengthening the Democratic Left and the claims of Martos to supplant Sagasta as leader of the Liberal party. The purpose of the English Government to build a dry dock at Gibraltar and the supposed intention to cut the rock off by a canal from the mainland furnished a pretext for a patriotic agitation against the Government to the Republicans, who asserted that the English had encroached on Spanish territory in the past, and could not build a canal without encroaching farther. The dissatisfaction of the army officers at the policy of the Liberals, who have reduced the strength of the standing army by one third since they have been in office and threatened to diminish the influence and emoluments of the military element and to cut down the pay of officers, has led political generals like Martinez Campos and Salamanca to assume an attitude of hostile criticism, but had provoked nothing of the nature of a *pronunciamiento* till Gen. Daban, the leading promoter of the restoration of the monarchy, published a circular, in March, addressed to all the Spanish generals, whom he invited to unite to protect the country against open and concealed enemies and guard the rights of the army in view of the proposition for the government of the colonies by civilians henceforth, the intended reduction of the military contingent, and other aggressive acts prejudicial to the army. Although Generals Cassola, Jovellar, Martinez Campos, and Primo de Ribeira defended their comrade in the Cortes, the Government ordered him under arrest for two months. He was confined in the fortress of Alicante for several weeks and then pardoned by the Queen-Regent. The main body of the army and of the corps of officers had little sympathy with generals who make trouble from motives of political ambition. The Liberal Government in five years had conferred on the country a law of association, a civil and a penal code, a law of assembly, civil marriage, with state intervention even in religious marriages, juries for criminal cases, and finally it had restored universal suffrage and enlarged the franchise in the Spanish Antilles. Its weak spot was the financial difficulty, which preceding ministries had been equally unable to solve. Since the conversion of the debt in 1882 the ordinary receipts have fallen short of the expenditures by about 60,000,000 pesetas a year, and the Ministers of Finance and the Cortes have been restrained by political, military, administrative, and electoral considerations from a resolute attempt to bring the expenses within the income. The officially acknowledged 270,000,000 pesetas did not include the whole of the floating liabilities, for it was necessary to add the deficit of 80,000,000 pesetas in the current budget, 88,000,000 pesetas advanced by the company farming the tobacco *régie* for naval construction, and the advances of 60,000,000 or 70,000,000 pesetas from the Bank of Spain for running expenses of the Government.

Change of Ministers.—In June Señor Sagasta effected a reconciliation with the most powerful of the Liberal dissentients and secured a reliable majority for the further legislative measures that he contemplated bringing forward before the Cortes expired by limitation of time in 1892. The aristocratic and military elements forming the court circle were unwilling that Sagasta and the reunited Liberals should conduct the approaching elections, and succeeded in imparting their distrust to the Queen-Regent, with the result that the Cabinet resigned in a body. In confiding the Government and the right of presiding over the elections to the Conservatives, Queen Christina followed the example of her husband, who in the absence of a fair electoral expression of the wishes of the people used his prerogative to build up a constitutional Opposition and regular party government by calling the chiefs of the parties alternately to office. Señor Canovas del Castillo formed a Cabinet, into which he called Admiral Berenger and two other Advanced Liberals. It was constituted on July 5 as follows: President of the Council, Canovas del Castillo; Minister of Foreign Affairs, Duke de Tetuan; Minister of the Interior, Francisco Silvela; Minister of Justice, Señor Villaverde; Minister of War, Gen. Azarraga; Minister of Marine, Admiral Berenger; Minister of Finance, Señor Cosgavon; Minister of Colonies, Señor Fabie; Minister of Public Works, Señor Isasa. The Chamber was dissolved by the new ministry, and in the general election universal suffrage did not alter the invariable course or diminish the power of the Government to secure an official majority.

Labor Disturbances.—Eight-hour demonstrations on May 1, followed by strikes in various parts of the country, brought into prominence the labor question, to which little attention has been given since the formidable explosion in 1873, although for ten years the Socialists and Anarchists have held regular conventions in Madrid and the provincial capitals, associations and unions of working men have been formed in every part of Spain, and their programme has been advocated on the platform and in their journals with tenacious consistency. This embraces eight hours of labor for men; prohibition of the labor of children under fourteen and limitation of the working day to six hours for young people under eighteen; interdiction of night work except in branches of industry requiring uninterrupted operations, and in these the interdiction of night work for women and minors; thirty-six hours of continuous rest every week; interdiction of trades and industrial methods harmful to health; suppression of employers' stores and of payment in provisions or goods; suppression of employment agencies; vigilant state inspection of factories and even of house industries by officials elected in part by the working people. At Bilbao and throughout the mining and industrial districts of the Nervion there was a general strike, and collisions took place between the workmen and the military. Riots took place also at Valencia and Barcelona. In July the strikes in Catalonia assumed serious proportions and threatened to involve the whole industry of the province. The struggle was not over wages or hours, but arose

from a combination to compel employers to re-engage discharged workmen.

Industrial Conference.—A conference for the protection of industrial property that was appointed to meet in Madrid in October, 1889, and then postponed at the request of the Spanish Government till April 1, 1890, closed its labors on April 14 with the signing of a protocol. At the conference held at Rome in 1886 many questions were left to be decided at the Madrid meeting that were difficult of settlement on account of the conflicting interests of some of the countries forming part of the International Union. The most delicate of these was that of false indications of the origin of merchandise. Under the convention of 1883 the names and trade-marks of individual makers were protected. The Spanish Government and the International Bureau of Bern proposed, on the basis of a draft proposition offered by the British Government at the Rome conference, to make importations falsely marked as coming from a certain country or locality liable to seizure. The French and English representatives advocated a more stringent penalty, while those of the United States, Belgium, the Netherlands, and Italy withheld their assent to the revision, which Great Britain, France, Spain, Portugal, Sweden and Norway, Servia, Switzerland, Brazil, Guatemala, and Salvador agreed to present for legislative enactment to their respective legislative bodies. Germany, Austria, Russia, and Turkey remain outside the arrangement, as they are not members of the Union. In Great Britain the domestic manufacturers were already protected against the competition of German and other manufacturers using fraudulent British labels by the merchandise marks act of 1887. The courts of each country will have to decide whether the name of a locality has become generic and is only used to denote class or quality; but on motion of the French representative it was decided to except wines from this provision and to prohibit the use of the names of famous wine districts, such as Champagne, Burgundy, Madeira, etc., for imitations made in other places. Merchandise can be seized either in the state where the false indication of origin is affixed or in that in which articles bearing the false mark may be introduced. If the laws of a state do not allow seizure, it must be replaced by prohibition to import. A vender may place his name and address on goods from other countries, provided the country of origin is also indicated in visible characters. An exemption is made in favor of goods imported for purposes of transit. This separate convention limited to the states ready to enter into it, after the fashion of the restricted agreements of the Postal Union, was the chief subject submitted to the Madrid conference. The conference adopted further a proposition to increase from six months to one year the time allowed to inventors for taking out a patent after first presenting the application and a project for establishing at Rome an International Bureau for the registration of trade-marks.

The Colonies.—Including the American colonies (see CUBA), the possessions of Spain beyond the seas had a total area in 1890 of 433,891 square miles and a population of between 8,000,000 and 10,000,000. The population of the Phil-

ippine Islands alone, with a superficies of 114,326 square miles, was estimated in 1885 at 9,529,841, though unofficial estimates place it as low as 7,500,000. In the Sulu Islands, Spain has 950 square miles of territory, with about 75,000 inhabitants. The Marianne Islands are 420 square miles in extent, with 8,665 inhabitants; the Caroline Islands and Palaos together have an area of 560 square miles, with 36,000 inhabitants. The budget of receipts for the Philippine Islands in 1888 was 9,837,896 pesos, and the expenditures 11,201,810 pesos. The imports in 1887 amounted to 17,530,296 pesos or dollars (the peso is worth about 80 cents) and the exports to 25,254,140 pesos. The most important exports are sugar, Manila hemp, tobacco and cigars, and coffee. In May, 1890, the natives of the Caroline Islands attacked some Spanish soldiers in the woods, Spanish vessels shelled the village of Mutalani and carried the fortifications defended by the natives, who lost 150 men and killed or wounded 26 of the landing-party. A determined attempt was made to reduce the people of the island of Ponapi to subjection. At Oua the church, schools, and dwellings of the American missionaries were destroyed by a bombardment. As some of the native Christians had joined in the rebellion, the Spanish officers formed the conclusion that the presence of the Americans was a hindrance to the conquest, and during the operations the missionaries were dispossessed notwithstanding the convention between the Spanish and United States governments stipulating that they should not be molested so long as they abstained from political interference. On Oct. 16 an American war vessel, the "Alliance," arrived and took them away. The missionaries had counseled submission when the Spanish commander in June threatened to exterminate the people if they did not deliver up their arms. In November the Spaniards captured the fortified position of Ketani, which was defended by 2 cannons, losing in the assault 26 killed and 51 wounded.

In 1876 the Spanish possessions in Africa, including the small patches in Morocco and the Canary Islands, Fernando Po and Annabon, Corisco and Elobey islands, and the San Juan territory, amounted to 3,600 square miles. Since 1886 Spain has laid claim to the coast from Cape Blanco to Cape Bojador and has made treaties with chiefs of Adrar and other districts giving her a title to about 200,000 square miles in the Western Sahara. At least half of the same territory is regarded as theirs by the French. On the west coast of Africa the region between the Bay of Mouni and the Rio Campo, about 70,000 square miles, with 500,000 inhabitants, is also in dispute between France and Spain.

STEAMERS, OCEAN, SPEED OF. The practicability of navigating the ocean by steam power was proved in 1819, when the "Savannah" crossed from New York to Liverpool in 26 days. This vessel was commanded by Capt. Moses Rogers, of New London, Conn., who had also commanded the "Fulton," the first steamship on the Hudson, and the first steamer to make the voyage from Charleston to Savannah. The ocean pioneer, "Savannah," was a full-rigged ship, with her paddle wheels so arranged that they could be shipped on deck in 30 minutes. She carried 75 tons of coal and 25 cords of wood. The

wheels were frequently taken on deck during bad weather; in fact, she used steam only 18 out of the 26 days. The log of the "Savannah" is in the Smithsonian Institution, in Washington. The "London Times" of June 30, 1819, said: "The 'Savannah,' steam vessel, recently arrived at Liverpool from America, the first vessel of the kind that ever crossed the Atlantic, was chased a whole day off the coast of Ireland by the 'Kite,' a revenue cruiser on the Cork station, which mistook her for a ship on fire." In 1828 the steamship "Curaçoa" was built for the Dutch trade between Amsterdam and the West Indies. She was withdrawn after making several voyages, and the "Savannah" was withdrawn after her first voyage, because of the small gain in speed over the faster sailing boats, and also because of the expense, wood being used in the "Savannah" and soft coal in the "Curaçoa." The cost of fuel prevented further progress until 1838, when the Great Western Railway Company, of England, built the "Great Western," and the British and American Steam Navigation Company chartered the "Sirius," which had been running between London and Cork. The "Great Western" was 212 feet long and 34 feet 4 inches in the beam. She had 2 engines of 200 horse-power each, and her burden was 1,320 tons. The "Sirius" was of only 700 tons register, with engines of 320 horse-power. Both vessels arrived in the harbor of New York on April 23, the "Sirius" a few hours in advance. The time of the "Sirius" from Cork to New York was 19 days; that of the "Great Western" from Bristol to New York, 15 days. This gave an impetus to the building of ocean steamers. By 1845 the time had been reduced nearly one third, and voyages in 12 days, 8 hours, and 12 days, 6 hours were frequent. From 1845 to 1851 the time was still further reduced by an average of nearly 12 hours a year, so that in 1851 9 days and 12 hours covered the trip from New York to Liverpool. From that date to 1867 were the last days of the old side-wheel steamers. The sailing yacht "Dreadnaught" ran from New York to Queenstown in 9 days, 17 hours, in 1860. The side-wheel "Scotia" reduced the time from New York to Liverpool to 8 days, 17 hours, 47 minutes, and the time from Liverpool to New York to 8 days, 17 hours, 47 minutes. The "Weser" made the distance from Southampton to New York in 9 days, 3 hours, 30 minutes. The "Scotia" took 8 days, 2 hours, and 48 minutes from New York to Queenstown, and 8 days, 9 hours, 4 minutes from Queenstown to New York. The latter distance was covered by the old "City of Paris" in 7 days, 23 hours, 4 minutes. During the fifteen years following there was little reduction in the time. Meanwhile the screw principle for propelling had been developed. From 1872 the best records were made by the screw steamers. In that year the run from Queenstown to New York was made by the "Adriatic" in 7 days, 18 hours, 55 minutes; and in the same year the "City of Brussels" covered the eastward passage in 7 days, 15 hours, 55 minutes. This latter was thought to be a great gain upon the time of the "City of Brussels" in 1869, 7 days, 20 hours, 10 minutes. The time from New York to Queenstown was gradually reduced until, in 1881, the "Arizona" made the

run in 7 days, 5 hours, 7 minutes, and gained the name of "Greyhound of the Atlantic." She thus became the first of the seven-day boats. She was followed closely by the "Alaska," in 1882, which carried the first load of passengers that ever left Europe on Sunday and landed in New York on the following Sunday. A sharp contest then took place between several of the rival lines. The "Alaska" and the "Arizona" were owned by the Guion Line; the Cunard Line built the "Umbria" and the "Etruria"; the North German Lloyd Line built the "Elbe," the "Saale," the "Trave," and the "Lahn"; the Anchor Line had just completed the "City of Rome"; the Compagnie Générale Transatlantique built the "Bourgoyne" and the "Champagne"; the Inman Line built the "City of New York" and the "City of Paris"; and the Hamburg Packet-Line Company built the "Columbia" and the "Augusta Victoria." In 1889 the White Star Line built the "Teutonic" and the "Majestic." The several steps by which the time has been reduced between New York and Queenstown, New York and Southampton, and New York and Liverpool may be seen by the tables below. The record from Queenstown to New York was closed for 1888 by a victory for the "Etruria." In May, 1889, the "City of Paris" reduced the time by several hours; but in the same month the swift passage of the "Augusta Victoria" from Southampton to New York gave some reason for the claim that, on a calculation of the same speed, she could have made the distance from Queenstown to New York in 5 days, 22 hours, 30 minutes, as against the 5 days, 23 hours, 7 minutes of the "City of Paris." While the controversy was still going on, the "City of Paris" arrived in New York, in August, having made the run from Queenstown in 5 days, 19 hours, 18 minutes. A year later, in August, 1890, the "Teutonic" made the trip in 5 days 19 hours and 5 minutes, which is the best record that has been made down to the present writing. The "City of Paris" has held the best record for the eastward passage, New York to Queenstown, since December, 1889.

The following table shows the noteworthy passages:

NEW YORK TO QUEENSTOWN; AVERAGE DISTANCE,
2,850 MILES.

Date.	NAME.	Time.		
		D.	H.	M.
PADDLE STEAMERS.				
1866.	City of Paris (old).....	8	12	30
1866.	Scotia.....	8	2	48
SCREW STEAMERS.				
1869.	City of Brussels.....	7	20	10
1872.	City of Brussels.....	7	15	55
1875, Oct.	City of Berlin.....	7	15	48
1876, Dec.	Britannia.....	7	12	46
1879, June.	Arizona.....	7	9	23
1881, Sept.	Arizona.....	7	7	48
1881.	Arizona.....	7	5	7
1882, Sept.	Alaska.....	6	18	27
1884.	America.....	6	14	13
1884, June.	America.....	6	13	44
1884, Oct.	Oregon.....	6	12	52
1884.	Oregon.....	6	10	10
1884.	Oregon.....	6	9	50
1884, Sept.	Oregon.....	6	8	30
1885, Sept.	Etruria.....	6	7	30
1887, Feb.	Etruria.....	6	5	11
1888, April.	Etruria.....	6	4	40
1888, Nov.	Umbria.....	6	2	22
1889, Dec.	City of Paris.....	5	22	50

QUEENSTOWN TO NEW YORK.

Date.	NAME.	Time.		
PADDLE STEAMERS.				
1866, July.....	Scotia.....	D. 8	H. 9	M. 4
1867, Nov.....	City of Paris (old).....	7	23	4
SCREW STEAMERS.				
1872, May.....	Adriatic.....	7	18	55
1879.....	Arizona.....	7	7	..
1882, July.....	Alaska.....	7	2	36
1884, March.....	Alaska.....	6	21	40
1884, May.....	America.....	6	15	41
1884.....	America.....	6	14	13
1884, April.....	Oregon.....	6	10	30
1884.....	Oregon.....	6	9	42
1885, Aug.....	Etruria.....	6	5	44
1887, May.....	Umbria.....	6	4	42
1888, June.....	Etruria.....	6	1	55
1889, May.....	City of Paris.....	5	23	7
1889, Aug.....	City of Paris.....	5	19	18
1890, Aug.....	Teutonic.....	5	19	5

NEW YORK TO SOUTHAMPTON; AVERAGE DISTANCE,
3,100 MILES.

		SCREW STEAMERS.			D.	H.	M.
1884.....	Elbe.....			8	2	30	
1884.....	Werra.....			7	21	15	
1884.....	Ems.....			7	18	25	
1887, Feb.....	Trave.....			7	18	51	
1887.....	Alter.....			7	4	45	
1889, April.....	Lahn.....			7	4	35	
1889, Aug.....	Columbia.....			6	19	20	
1889, Nov.....	Columbia.....			6	18	10	

SOUTHAMPTON TO NEW YORK.

PADDLE STEAMERS.		D.	H.	M.
1858.	Vanderbilt	9	13	..
1859.	Vanderbilt	9	9	26
1867.	Weser	9	8	30
SCREW STEAMERS.				
1884.	Elbe	8	2	45
1884.	Eider	7	16	32
1887.	Ems	7	11	..
1888.	Lahn	7	4	45
1889, May.	Augusta Victoria	7	2	30
1889, June.	Lahn	7	1	30
1889, July.	Columbia	6	21	23
1890, June.	Columbia	6	16	23

The average distance covered between New York and Antwerp is 3,250 miles. Steamers cross in from 10 to 12 days, but the eastern trip has been made in 9 days, 10 hours, 50 minutes. The average distance between New York and Havre is 3,150 miles. The best passages in both directions are about 7 days, 12 hours. The passage between New York and Brest was made, in 1887, in 7 days, 8 hours, 29 minutes. Other quick passages on record are the following: Philadelphia to Queenstown, 1873, "Ohio," 10 days, 23 hours; 1876, "Illinois," 8 days, 18 hours, 30 minutes; Queenstown to Philadelphia, 1873, "Ohio," 9 days, 8 hours, 40 minutes; San Francisco to New York, 1865, "Colorado," 61 days, 21 hours, 4 minutes; San Francisco to Yokohama, "City of Peking," 15 days, 9 hours; Yokohama to San Francisco, "Oceanic," 13 days, 14 hours; 1882, "Arabic," 13 days, 21 hours, 43 minutes; 1889, December, "China," 12 days, 11 hours.

The splendid run made by the "City of Paris" in August, 1889, was made up of the following for each day: First day, 432 miles; second day, 493 miles; third day, 502 miles; fourth day, 506 miles; fifth day, 509 miles; sixth day, 346 miles; total, 2,788 miles. The run of the "Columbia" in April, 1889, was as follows: First day, 153 miles; second day, 443 miles; third day, 461 miles; fourth day, 465 miles; fifth day, 464 miles; sixth day, 450 miles; seventh day, 169 miles.

The great increase of speed in later years has been due more to motive power than to improvements in the lines of the hull. After the introduction of the screw propeller, steamers began to be built of iron and steel. The pressure in the boiler was increased, surface condensation was adopted, and compound and duplicate expansion cylinders led to still greater pressure in the boilers. The latter are now made of mild steel. These improvements have made a reduction of at least 60 per cent. in the amount of coal consumed, and an increase of 100 per cent. in speed. The tonnage has increased in the past fifty years from about 70,000 tons to nearly 4,500,000 tons. The following table gives the dimensions of steamers of above 5,000 tons that are now crossing from the United States and Canada to Europe:

NAME.	Built.	Tonnage.	Horse-power.	Length.	Breadth.
City of Paris.....	1888	10,500	16,000	582	63-2
City of New York.....	1888	10,500	16,000	580	63-2
Augusta Victoria.....	1880	10,000	12,000	470	56
Columbia.....	1880	10,000	12,500	470	56
Teutonic.....	1880	9,500	22,000	582	57-5
Majestic.....	1880	9,500	22,000	582	57-5
City of Rome.....	1881	8,445	15,000	560	52
Umbria.....	1884	8,000	14,000	520	57-2
Etruria.....	1884	7,718	14,000	529	57-2
Servia.....	1887	12,292	10,000	515	52-1
Aurania.....	1882	7,269	10,000	470	57-2
Le Bretagne.....	1886	7,012	7,500	508-4	52-4
La Bourgogne.....	1886	7,000	7,500	508-6	52-2
La Champagne.....	1886	7,005	7,500	508-7	51-6
La Gasconne.....	1886	7,005	7,500	508-7	52-2
Alaska.....	1881	6,532	* 1,300	500	50-6
Normandie.....	1882	6,062	7,500	499	50
Westernland.....	1883	6,000	4,000	455	47
City of Chicago.....	1883	5,690	4,500	480	45
Saale.....	1886	5,500	7,500	455	48
Trave.....	1886	5,500	7,500	455	48
Aller.....	1886	5,500	7,500	455	48
City of Berlin.....	1874	5,491	5,500	458-6	44-2
Parisian.....	1881	5,365	8,000	440-8	46-2
Noordland.....	1883	5,300	6,000	400-7	40
Eider.....	1883	5,200	7,000	450	47
Arizona.....	1879	5,117	* 1,200	464	46
Emu.....	1884	5,129	7,000	430-5	47
Fukia.....	1881	5,109	6,300	450	46
Werra.....	1882	5,109	6,300	451	46
Belgravia.....	1881	5,080	4,950	398-2	44-5
Germanie.....	1874	5,008	4,500	455	45-2
Britannia.....	1874	5,004	4,500	455	45-2

* Nominal.

SWEDEN AND NORWAY, two kingdoms in northern Europe, united in a personal union, having a common diplomacy directed by a Council of State composed of Swedes and Norwegians. The reigning King, Oscar II, born Jan. 21, 1829, succeeded his brother, Carl XV, Sept. 18, 1872. The heir-apparent is Prince Gustaf, Duke of Wermland, born June 16, 1858. The right to declare war and conclude peace belongs to the King.

SWEDEN.—The Diet is composed of two chambers, one of 147 members, elected for nine years by the communal authorities, and a popular branch containing 228 members, elected for three years by direct suffrage in the towns and by either direct or indirect suffrage, as the majority determines, in other districts. The Council of State is composed of Baron Johan Gustaf N. S. Akerhjelm, Minister of State; Count Lewenhaupt, Minister of Foreign Affairs; and the following Councilors of State: Vice-Admiral Baron Otter, Marine; Dr. G. Wennerberg, Ecclesiastical Affairs; Major-General Baron

Palmstjerna, War; Baron Von Essen, Finance; Baron Albert L. E. Akerhjelm, Chancellor; A. Ostergren, Justice; V. L. Groll, Interior; S. H. Wikblad, Public Debt.

Area and Population.—Sweden, with an area of 171,750 square miles, had on Dec. 31, 1889, an estimated population of 4,774,409, of which number 2,315,370 were males and 2,459,039 females. The marriages in 1888 numbered 28,075; births, 140,213; deaths, 79,593; excess of births, 60,620. The average annual emigration in 1851-'60 was 1,690; in 1861-'70, 12,245; in 1871-'80, 15,027. In 1881 there were 45,992 emigrants, and in 1882 there were 50,178. The number fell to 23,493 in 1886, and then rose to 50,786 in 1887. In 1888 there were 50,323. The city of Stockholm in 1889 contained 243,500 inhabitants; Gothenburg, 102,782.

Finances.—The budget for 1891 makes the ordinary revenue—that is, the receipts from the land tax, railroads, telegraphs, domains, forests, etc.—20,520,000 kronor (the Swedish krona or Norwegian krone is worth 27½ cents). The extraordinary revenue, which includes the customs receipts, stamps, postal receipts, and spirit, beet sugar, and income taxes, is estimated at 67,380,000 kronor. With the profits of the State Bank and 5,750,000 kronor carried over from the previous budget, the total revenue is 94,950,000 kronor. The ordinary expenditures are set down as 68,183,147 kronor, the chief items being 20,449,200 kronor for the army, 16,153,466 kronor for financial administration and collection, 11,946,608 kronor for education, and 6,204,240 kronor for the navy. With 15,523,853 kronor of extraordinary expenditure, 10,031,860 kronor of interest and sinking funds, and various special funds added, the expenditures are made to balance the revenue exactly.

The Army and Navy.—The military law that went into effect on Jan. 1, 1887, requires every Swede from the age of twenty-one to serve six years in the active army and six years in the Landstorm. Yet only a restricted number are inscribed in the list of the Infidelta or regular troops, and these are with the colors one hundred and twenty days for instruction in the first year, fifty days in the second, and thirty days in the succeeding years. The rest, forming the *Bevärung*, train for forty-two days during two years. The strength of the regular army in 1890 was 1,675 officers, 433 civilian employees, 1,483 under officers, 1,531 musicians, and 33,020 private soldiers; total, 33,020 men, with 186 guns and 6,183 horses. The *Bevärung* numbered 139,913 and the Landstorm 152,425 men, total 330,480.

The naval force in 1890 consisted of 30 gunboats, 18 torpedo boats, 20 other steamers, and 6 sailing vessels, with 148 guns and 4,744 men.

Commerce.—The total value of imports, including precious metals, in 1888 was 324,709,000 kronor, of which Germany furnished 94,013,000 kronor; Great Britain, 93,717 kronor; Denmark, 42,424,000 kronor; Norway, 28,014,000 kronor; Russia, 22,302,000 kronor; Belgium, 10,260,000 kronor; Finland, 7,024,000 kronor; Netherlands, 6,946,000 kronor; France, 6,749,000 kronor; United States, 4,178,000 kronor; East India, 2,573,000 kronor; eastern Asia, 2,472,000 kronor; Portugal, 1,708,000 kronor; Spain, 956,000 kronor; and other countries, 1,373,000 kronor.

The sum of the exports was 281,753,000 kronor; 129,853,000 kronor went to Great Britain, 34,837,000 kronor to Denmark, 29,593,000 kronor to France, 27,150,000 kronor to Germany, 13,991,000 kronor to Norway, 13,749,000 kronor to Holland, 10,480,000 kronor to Belgium, 5,581,000 kronor to Spain, 4,632,000 kronor to Finland, 3,191,000 kronor to Mediterranean ports, 2,552,000 kronor to Russia, 2,503,000 kronor to Australia, 1,807,000 kronor to Portugal, 1,147,000 kronor to the United States, and 690,000 kronor to other countries.

The imports of articles of consumption amounted to 109,200,000 kronor, including 40,100,000 kronor for colonial products, 28,300,000 kronor for cereals, 17,400,000 kronor for animals and animal food products, 9,300,000 kronor for tobacco, and 9,300,000 kronor for drink. The exports in this class were 72,500,000 kronor in value, the chief articles being animals and animal products for 50,400,000 kronor, cereals for 18,000,000 kronor, and fermented liquors for 2,600,000 kronor. Of raw materials were imported textile fibers for 23,500,000 kronor, coal for 19,500,000 kronor, hides and leather for 13,000,000 kronor, metals for 9,600,000 kronor, and other articles for 10,200,000 kronor, making a total of 75,800,000 kronor. The exports of materials were 109,700,000 kronor, consisting mainly of lumber and metals. The Swedish iron industry is constantly expanding. The imports of textile fabrics were 63,000,000 kronor in value, those of metal goods were 14,300,000 kronor, of machinery, vessels, and vehicles 14,100,000 kronor, and of paper, glass, and other articles, 15,900,000 kronor, making the total imports of manufactured products 107,300,000 kronor. The exports of manufactures were 58,200,000 kronor, comprising 24,100,000 kronor for paper and pulp, 7,400,000 kronor for textiles, 4,400,000 kronor for metal goods, and 22,300,000 kronor for other articles. The imports of miscellaneous merchandise, including 12,100,000 kronor for oils, were 31,600,000 kronor, and the exports in this class amounted to 5,000,000 kronor. The imports of specie were 800,000 kronor and the exports 100,000 kronor.

Navigation.—The number of vessels entered at Swedish ports in 1888 was 28,571,000, of 5,022,000 tons, of which 13,390, of 1,764,000 tons, were Swedish, 2,620, of 576,000 tons, were Norwegian, and 12,561, of 2,682,000 tons, were foreign. Of the total number, 10,140, of 2,173,000 tons, brought cargoes, and 12,128, of 3,403,000 tons, were steamers. The number cleared was 26,834, of 4,983,000 tons, including 11,872 steamers, of 3,350,000 tons, and of the total number 18,166, of 3,727,000 tons, carried cargoes.

The Swedish mercantile fleet on Jan. 1, 1889, comprised 2,885 sailing vessels, of 374,514 tons, and 959 steamers, of 125,496 tons.

Communications.—The railroads in operation at the end of 1889 had a total length of 7,888 kilometres, of which 2,613 kilometres belonged to the nation and 5,275 kilometres to private companies. The Rigsdag in May, 1890, voted 6,750,000 kronor for the purchase of the unfinished railroad to the Gellivara mines on the Norwegian border. The state telegraphs had a length of 8,676 kilometres besides 118 kilometres of cable and the cables owned in common with Denmark and Prussia, which have a total length of 119

kilometres. The length of wires was 22,529 kilometres. There were 3,334 kilometres of private lines, with 12,887 kilometres of wires. The number of paid dispatches sent was 939,624 inland and 586,559 international, besides 182,569 in transit. The receipts were 1,428,448 kronor, and the expenses 1,304,939 kronor.

The post-office forwarded 54,211,227 letters and postal cards, 5,731,013 circulars and samples, and 47,164,882 newspapers, in 1888. The receipts were 6,598,040, and the expenses 6,561,924 kronor.

The Gothenburg Licensing System.—A project of temperance reform introduced in Gothenburg in 1865 and afterward extended to other places is based on the theory that drinking is promoted by the liquor-dealers. A company undertook the whole business of supplying fermented liquors on the condition that all profits beyond a fixed percentage on the capital should be paid into the municipal and provincial treasuries. It engaged to remunerate the dealers whose licenses were extinguished. During the first year the convictions for drunkenness dropped from 2,070 to 1,424, yet for ten years the consumption of spirits did not diminish, the reason being that there was a constant rise in wages. Since 1876 the operation of the system has been marked by a steady diminution in the consumption of spirits, in convictions for drunkenness, and in cases of alcoholism. The quantity of spirits drunk fell from 1,777,728 litres to 1,568,154, or from 28.90 to 16.05 litres per capita between 1876 and 1889. The cases of *delirium tremens* in the hospitals declined from 89 to 42, notwithstanding a growth of 67 per cent. in population. The report of the company for 1889 shows that, after paying a 6-per-cent. dividend and handing over 72,400 kronor to dealers as compensation for the loss of their licenses, it paid into the public treasuries 682,000 kronor. It has raised the price of spirits sold at the bar. The sums paid into the public treasuries are used for improving the condition of the poor and for works of general utility. The Stockholm company, which began operations in 1877, reduced at once the number of dram shops from 200 to 87. The improvement in public morality has been as marked as in Gothenburg.

Norway.—The Storting is composed of 114 representatives, 38 from the towns and 76 from the rural districts, elected indirectly for three years. One quarter of the members are elected by the body to form the Lagthing, and the others constitute the Odelsting. The Council of State in 1890 was composed of the following members: E. Stang, Minister of State; U. F. C. Arneberg, Justice and Police; E. Rygh, Finance and Customs; J. A. Bonnevie, Worship and Public Instruction; P. Birch-Reichenwald, Public Works; Col. E. H. Hoff, Defense; O. A. Furr, Interior; H. Lehmann, Secretary of State; G. W. W. Gram, Minister of State of the section sitting at Stockholm, and his associates the Counsellors F. N. Roll and J. H. P. Thorne.

Area and Population.—The area of Norway is 123,205 square miles. In 1887 the population was computed to be 1,978,400. The number of marriages in 1888 was 12,154; of births, 61,277; of deaths, 33,645; excess of births, 27,632. The number of emigrants in 1889 was 12,642, against 21,452 in 1888, 20,741 in 1887, 15,-

158 in 1886, 13,981 in 1885, 14,776 in 1884, 22,167 in 1883, 25,976 in 1881, 7,608 in 1879, and 3,206 in 1877.

Finances.—The ordinary receipts in 1889 were 44,294,800 kroner, of which 20,469,400 kroner were derived from customs, 2,648,200 kroner from the spirit duties, 1,689,000 kroner from the malt duty, 1,207,800 kroner from state forests, domains, and mines, and the rest from stamps, court dues, succession duties, university, prisons, hospitals, and other sources. The ordinary expenses amounted to 43,562,900 kroner, the chief items being 9,004,800 kroner for public works, 7,118,400 kroner for the army, and 7,648,000 kroner for financial administration. The debt on June 30, 1889, amounted to 115,714,200 kroner, and state assets to 139,468,600 kroner.

The Army and Navy.—The law of 1885 introduced obligatory service. The term in the active army is five years, in the reserve two years, in the *Landvaern* two years, and in the *Landstorm* fifteen years; yet the actual duties are confined to a course of instruction lasting fifty days for the infantry and ninety days for the other arms, and to annual exercises for thirty days. The number of troops is limited by law to 800 officers and 18,000 men.

The fleet of war consisted in July, 1890, of 4 monitors, 2 frigates, 2 corvettes, 31 gunboats, 9 torpedo boats, 1 steam transport, and 6 sailing ships, carrying in all 170 guns.

Commerce.—The value of the imports in 1889 was 191,608,000 kroner, against 158,397,000 kroner in 1888, and 133,691,000 kroner in 1887; of the exports, 132,669,000 kroner, against 122,357,000 kroner and 106,628,000 kroner respectively. Of the imports in 1889, 59,986,000 kroner came from England, 48,048,000 kroner from Germany, 21,763,000 kroner from Sweden, 20,189,000 kroner from Russia and Finland, 9,212,000 kroner from Denmark, 7,871,000 kroner from the United States, 7,476,000 kroner from Holland, 6,163,000 kroner from Belgium, 4,705,000 kroner from France, 1,177,000 kroner from Portugal, 912,000 kroner from Spain, 836,000 kroner from Italy, and 3,270,000 kroner from all other countries. Of the exports, 43,601,000 kroner were destined for England, 20,648,000 kroner for Sweden, 17,048,000 kroner for Germany, 11,773,000 kroner for Spain, 8,004,000 kroner for France, 6,350,000 kroner for Holland, 6,020,000 kroner for Belgium, 4,760,000 kroner for Denmark, 3,683,000 kroner for Russia and Finland, 3,568,000 kroner for Italy, 1,893,000 kroner for the United States, 763,000 kroner for Portugal, and 4,558,000 kroner for other countries.

Of the total value of imports, 73,800,000 kroner represented articles of food and drink, the import of cereals amounting to 33,900,000 kroner; colonial wares, 21,400,000 kroner; animals and animal products, 12,800,000 kroner; fermented liquors, 3,200,000 kroner; and fruits and vegetables, 2,500,000 kroner. The exports of articles of food and drink were valued at 48,600,000 kroner, of which 45,500,000 kroner stand for animals and animal products. The imports of raw materials amounted to 42,200,000 kroner, the principal articles being coal of the value of 10,800,000 kroner, metals for 8,600,000 kroner, textile materials for 7,400,000 kroner, and hides and leather for 6,100,000 kroner. The chief exports of

raw stuffs were lumber for 37,300,000 kroner and hides and leather for 7,000,000 kroner, the total for this class being 48,800,000 kroner. The imports of textile fabrics were 28,800,000 kroner; of metal wares, 6,700,000 kroner; and of other manufactured goods, 4,500,000 kroner; and the exports of wood manufactures were 14,100,000 kroner; of textile products, 5,200,000 kroner; of metal wares, 3,400,000 kroner; and of other manufactures, 1,500,000 kroner; making the sum of 40,000,000 kroner for imports and 24,200,000 kroner for exports of manufactured goods. Of other miscellaneous merchandise, including 7,000,000 kroner of oils imported and 6,500,000 kroner exported, the total imports were 35,600,000 kroner and the exports 11,100,000 kroner.

Navigation.—The number of vessels entered in 1888 was 11,258, of 2,303,225 registered tons, of which 6,293, of 1,451,426 tons, were Norwegian and 5,607, of 1,447,758 tons, were with cargoes. The departures numbered 11,454, tonnage 2,422,056, of which 6,513, of 1,581,838 tons, were Norwegian and 10,350, of 2,035,125 tons, sailed with cargoes. The merchant navy on Jan. 1, 1889, consisted of 7,233 vessels, of 1,534,540 tons, with 55,651 men in their crews. The steamers in 1888 numbered 536, of 137,542 tons.

Communications.—The railroads in 1890 had a total length of 1,562 kilometres. The state telegraphs in 1889 were 7,505 kilometres in total length, with 14,250 kilometres of wire. The internal dispatches numbered 869,579; the external dispatches, 503,400; receipts, 1,044,027 kroner; expenses, 1,114,232 kroner.

The post-office in 1889 forwarded 18,227,100 domestic, and 7,021,000 foreign letters, including 1,407,500 domestic money letters, containing 226,300,000 kroner, and 16,800,000 for or from foreign countries. The newspapers numbered 22,376,200 in the internal services. The receipts were 2,640,956 kroner, and expenses 2,526,015 kroner.

SWITZERLAND, a federal republic in central Europe. There are 25 republics, but only 22 cantons, each of which sends two members to the *Ständerath* or State Council. The National-rath or National Council consists of 148 members, elected for three years by direct universal suffrage. The two bodies elect 7 Swiss citizens to act as the Federal Executive for three years and the 9 members and the 9 alternates of the Federal Tribunal. The Federal Council for 1890-'92 consists of L. Ruchonnet, of Vaud, President for 1890 and chief of the Department of Justice and Police; Dr. E. Welti, of Aargau, Vice-President for 1890 and chief of the Department of Posts and Railroads; Dr. K. Schenck, of Bern, chief of the Department of the Interior; B. Hammer, of Solothurn, Finance and Customs; Dr. N. Droz, of Neuchâtel, Foreign Affairs; Dr. A. Deucher, of Thurgau, Industry and Agriculture; W. Hauser, of Zurich, Military Department. On Dec. 11, 1890, Dr. Welti was, according to customs, elected to succeed as President for the following year and W. Hauser was chosen as his successor in the Vice-Presidency. Col. Frei was elected a member of the Federal Council.

Area and Population.—The area and population of the republics forming the Swiss Confederation, as determined by the census taken on Dec. 1, 1888, are given in the following table:

CANTONS.	Square kilometres.	Males.	Females.	Total.
Aargau or Argovie.....	1,404.0	92,374	100,854	193,228
Appenzel-ausser-Rhoden.....	242.1	26,295	27,905	54,200
Appenzel-inner-Rhoden.....	177.5	6,841	6,565	12,906
Basel or Bâle (town).....	85.8	83,657	40,594	14,251
Basel or Bâle (country).....	421.6	30,441	31,692	62,133
Bern.....	6,888.1	266,011	271,260	537,271
Freiburg or Fribourg.....	1,660.0	59,636	59,926	119,562
St. Gallen.....	2,019.0	111,521	117,329	228,851
Geneva.....	279.4	49,947	57,053	107,000
Glarus.....	601.2	15,968	17,887	33,855
Graubünden or Grisons.....	7,132.8	46,915	49,376	96,291
Luzern or Lucerne.....	1,500.8	68,418	67,867	136,285
Neuchâtel or Neuenburg.....	807.8	52,236	56,811	109,047
Schaffhausen.....	294.2	18,017	19,862	37,879
Schwyz.....	908.5	24,758	25,688	50,446
Solothurn or Soleure.....	792.9	41,294	43,796	85,090
Tessin or Ticino.....	2,818.4	56,515	70,759	127,274
Thurgau or Thurgovie.....	998.0	51,921	53,170	105,091
Unterwalden (Obwald).....	474.8	7,508	7,524	15,032
Unterwalden (Nidwald).....	290.5	6,150	6,374	12,524
Uri.....	1,076.0	8,370	8,914	17,284
Vaud or Waadt.....	8,222.8	125,036	126,252	251,288
Valais or Valais.....	5,248.0	51,395	50,620	102,015
Zug.....	239.2	11,250	11,570	22,820
Zurich.....	1,724.7	162,278	176,786	339,064
Total.....	41,346.5	1,427,377	1,506,680	2,934,057

The number of marriages in 1889 was 20,691: of births, 84,279; of deaths, 62,818; excess of births over deaths, 21,461. The number of emigrants in 1888 who went beyond the seas was 8,430, of whom 6,966 were destined for North America, 1,419 for South America, 23 for Australia, 7 for Asia, and 15 for Africa. The Government has proposed to subject foreigners, who numbered 238,313 in 1888, to the military tax.

Finances.—The receipts of the Federal Government in 1889 were 65,571,700 francs, of which 27,636,051 francs were derived from customs and 22,823,496 francs were postal receipts. The expenditures were 64,435,005 francs, of which 24,003,169 francs, the expenditure for military purposes, and 20,530,655 francs, the expenses of the post-office, were the chief items.

The debt of the Confederation on Jan. 1, 1890, amounted to 59,023,636 francs, and the value of productive investments was 105,116,062 francs, inclusive of 12,480,352 francs of special funds.

Commerce.—The value of the special imports in 1889 was 954,229,000 francs, of which 270,002,000 francs represent imports from Germany, 262,302,000 francs' worth came from France, 140,803,000 francs from Italy, 106,491,000 francs from Austria-Hungary, 50,781,000 francs from Great Britain, 29,759,000 francs from Belgium, 26,159,000 francs from Russia, 7,877,000 francs from the Netherlands, 7,333,000 francs from the rest of Europe, 25,283,000 francs from the United States, 4,589,000 francs from the rest of America, 7,762,000 francs from Asia, 13,182,000 francs from Africa, and 1,906,000 francs from Australia and Polynesia. The sum of the exports was 710,895,000 francs, of which 184,606,000 francs were shipped to Germany, 142,281,000 francs to France, 105,950,000 francs to Great Britain, 76,139,000 francs to the United States, 53,489,000 francs to Italy, 38,534,000 francs to Austria-Hungary, 12,831,000 francs to Russia, 10,988,000 francs to Belgium, 4,155,000 francs to the Netherlands, 25,689,000 francs to other European countries, 25,560,000 francs to other American countries besides the United States, 27,329,000 francs

to Asiatic countries, 3,036,000 francs to Africa, and 2,308,000 francs to Australia and Polynesia.

The imports of cereals were of the value of 96,795,000 francs; silk thread, 88,131,000 francs; raw silk, 60,685,000 francs; animals, 47,405,000 francs; cotton, 45,180,000 francs; woollens, 42,090,000 francs; wine, 32,662,000 francs; apparel, 27,397,000 francs; coal, 26,550,000 francs; cotton goods, 25,829,000 francs; iron, 22,550,000 francs; chemicals, 20,577,000 francs; sugar, 18,454,000 francs; silk manufactures, 16,052,000 francs; machinery and cars, 15,575,000 francs; coffee, 14,372,000 francs; wool, 14,317,000 francs; timber, 11,233,000 francs; leather, 10,708,000 francs; leather goods, 9,346,000 francs. The principal exports were silk manufactures of the value of 129,073,000 francs; cotton manufactures, 128,709,000 francs; watches, 98,743,000 francs; silk thread, 75,443,000 francs; cheese, 30,030,000 francs; cotton thread, 24,683,000 francs; machinery and cars, 21,905,000 francs; animals, 16,311,000 francs; raw silk, 10,777,000 francs; woollen yarns, 10,695,000 francs; milk, 10,374,000 francs; coloring matters, 10,309,000 francs; gold and silver work, 8,769,000 francs; hides and skins, 8,504,000 francs; apparel, 7,036,000 francs. Of the imports 31.5 per cent. were agricultural, 18.5 per cent. pastoral, 1.8 per cent. forestry, 7.4 per cent. mining, and 40.8 per cent. industrial products. The exports were divided in the proportion of 14.1 per cent. of pastoral products and 85.9 per cent. of articles of manufacture.

Railroads.—The length of railroad lines in operation in 1888 was 2,858 kilometres, not reckoning 67 kilometres owned by foreign companies. The receipts for that year were 82,283,477 francs, and the running expenses 43,850,883 francs.

Postal and Telegraph Service.—The post-office in 1889 transmitted 71,357,000 domestic, and 32,430,000 foreign letters and postal cards; 17,867,000 domestic, and 84,624,000 foreign printed inclosures; and money orders of the value of 353,007,060 francs.

The length of the state telegraph lines in 1889 was 7,152 kilometres; the length of wires, 17,872 kilometres; the length of private lines, 1,127,000 kilometres; the length of wires, 6,563 kilometres. The number of dispatches was 3,732,902, of which 1,912,500 were internal, 1,194,677 international, 505,364 in transit, and 120,361 connected with the service. The receipts were 3,991,925 francs, and the expenses 3,417,694 francs.

The Army.—Every Swiss citizen capable of bearing arms is under obligation to serve, if called upon, in the Auszug or regular army from his twentieth to his thirty-second year. Actual service is confined to a short period of instruction and a few weeks of annual drill. From the thirty-third to the forty-fourth year service is owed in the Landwehr, and under the law of Feb. 15, 1887, the entire male population belongs to the Landsturm between the ages of seventeen and fifty. Those who do not serve in person pay 6 francs and an annual tax not to exceed 300 francs, or half that amount for the Landwehr. The army in 1890 numbered 1,205 staff and non-active officers in the Auszug and 297 in the Landwehr; 96,562 infantry in the Auszug and 64,237 in the Landwehr; 2,910 cavalry in the Auszug and 2,830 in the Landwehr; 17,654

artillery in the Auszug and 10,487 in the Landwehr; and 5,036 engineers, 1,917 sanitary troops, and 1,160 administrative troops in the Auszug, and 1,838 engineers, and 848 sanitary, and 250 administrative troops in the Landwehr. The total strength of the regular army was 126,444, and of the Landwehr 80,796. The Landsturma in 1889 numbered 262,766 men. The entrance to the St. Gothard Tunnel, on the Italian frontier, is being fortified at a cost of 2,500,000 francs.

Settlement and Extradition.—The questions at issue between Germany and the Swiss Republic, of which the Wohlgenuth affair and the termination of the German settlement treaty were incidents, have been cleared away by the action of the Swiss Government in conforming with the wishes of Germany in its policy regarding political offenses. Dr. Droz negotiated a new settlement treaty with Germany that was signed at Bern on May 31, 1890, and ratified by the State and National Councils. The treaty entered into force on July 20, 1890, and runs till Dec. 31, 1900. Germans are allowed to settle in Switzerland only when they present a certificate of the German minister at Bern that they are German subjects of good personal character. Switzerland reserves the right to permit the residence of persons not possessing such certificates. Swiss citizens desiring to obtain a residence in Germany must exhibit documents signed by the Swiss authorities proving their nationality and respectability. The Swiss Government can, if it should appear desirable, introduce the system of issuing certificates through the minister at Berlin.

While the negotiations for the settlement treaty were pending, the Federal Council submitted to the Legislative Assembly the project of a new extradition law. The majority of the extradition treaties concluded in late years between European states contain a clause making attempts on the life of a sovereign or head of the state or members of his family an extraditable offense. Switzerland has hitherto declined to be bound to deliver up political offenders, even if guilty of attempted assassination. In the proposed legislation the Federal Government went much further than the countries that accepted the invitation of Germany and Russia to make political murders or attempts on the lives of royalty extraditable. The bill was finally passed by the National Council in a modified form on Dec. 12. The law premises that extradition shall not be granted for political crimes and misdemeanors. It will, however, be granted, although the accused person pleads a political motive, if the offense has pre-eminently the character of a crime or misdemeanor at common law. This the Federal Tribunal will decide on investigation of the facts of each case. When extradition is granted the Federal Council will make it a condition that the person handed over shall not be prosecuted for a political crime or punished more severely on account of his political motive.

In December, under the law of 1889, the Frenchmen Bernard and Weil, the Italians Petraroya and Galleani, the Austrian Rovigo, and the Bulgarian Stoinoff were expelled by order of the Federal Council for preaching political murder and the violent subversion of the established social order.

Constitutional Revision.—The Federal Council has decided that the Constitution of the Confederation can at any time be revised, either as a whole or in any of its parts, and on May 20 it pronounced in favor of a popular initiative in the repeal or amendment of the provisions of the Constitution or the insertion of new clauses. If 50,000 citizens possessing the right of suffrage petition for a partial revision, the question shall be submitted to a popular vote, and in case a majority of the voters approve, it shall be taken in hand by the Federal Assembly.

Working Men's Insurance.—A system of compulsory sick and accident insurance has been approved by both branches of the Federal Assembly. The Minister of Agriculture, Dr. Deucher, who argued that State Socialism was the only means of dealing with the problem, since the civil responsibility of employers had helped the men but little, while it threatened ruin to masters. It was calculated that 500,000 francs would organize the institution and 600,000 francs would be required for annual management.

Revolution in Ticino.—On April 21, 1890, the Federal Tribunal ruled that it had no jurisdiction in the matter of the denial of the right of suffrage alleged against the cantonal government of Ticino, in the elections for the Grand Council in 1889. The Ultramontanes, had in February, before the elections voted to remove the names of 1,200 Protestant German-speaking Switzers from the lists, and this had been done by the Executive. On the following day the members of the Government resigned in order to seek confirmation by a fresh election. The animosity of the defeated Liberal faction was intensified by the discovery of the peculation of nearly 1,500,000 francs by the treasurer of the canton. The discontent with the local government and its supposed unconstitutional proceedings culminated, on Sept. 11, in the revolutionary overthrow of the Ultramontane officials who had been in power continuously for fifteen years. On Aug. 9 the Liberals demanded a revision of the Constitution and a redistribution of seats in a petition signed by 10,000 citizens. The Government paid no attention to this appeal, although the Constitution requires that a request supported by 7,000 names should be followed by a new election within a month. The Liberal leaders organized their revolutionary stroke with secrecy and carried it out skillfully before their purpose was suspected. They met at Bellinzona, the seat of government, on the appointed day, took possession of the arsenal, armed their followers, made prisoners of the officers of the Government that they found in public places, marched to the Government Palace, and when the members of the Government inside refused to open the gates they battered them down. In the affray revolver shots were fired, and Councilor Rossi was killed. The other members of the cantonal Council were arrested. A provisional Government was constituted, consisting of Simen as President, and Bruni, Lepori, Bataglini, and Perinetti as Councilors. A popular Assembly declared the Government and the Grand Council deposed. In Lugano, Mendrisio, Chiasso, Locarno, and Brissago revolutionary committees took possession of the public offices. The Federal Council sent a special commissioner,

Col. Künzli, to Bellinzona with extraordinary powers, and on the following morning 1,473 troops were dispatched from Bern. The revolutionists paid no attention to a proclamation ordering the release of the imprisoned officials, the dissolution of the Provisional Government, and the transfer of all authority to the Federal Commissioner. The Liberals asserted that in 1881 the election districts had been arranged in a way to give the Ultramontanes a majority in spite of their own numerical equality or superiority, and they insisted that a popular vote should be taken on Sept. 21 on the question of returning to the old electoral divisions. Troops were sent to other parts of the canton to prevent a Conservative counter-revolution, while Col. Künzli, instead of forcibly deposing the Provisional Government, entered into negotiations with the Radical leaders, and effected a compromise in accordance with which the functions of government should be transferred to his hands and conducted with the advice of representatives of both parties until a general election could be held on the question of revision. On Sept. 14 the Provisional Government retired. The Conservatives, who were about to march upon Bellinzona when the Federal troops arrived, were incensed because Col. Künzli, who called into his council the Liberal Deputies Censi and Gabuzzi and the Conservative Deputies Galli and Soldati, forbade Conservative gatherings, and

they attempted to rise at Tesserete and Locarno, and more troops were sent into the canton to maintain order. Conservatives who seized the Gordola bridge and other armed bands of both parties were dispersed. President Respini of the late Government and his associates made a formal demand to be restored, and on Sept. 18 they were allowed to take possession of the offices, though Col. Künzli retained his extraordinary powers. He called a committee of conciliation to consist of 9 from each party, but only 3 of the Conservatives attended. On Oct. 5 a popular vote on the revision question resulted in favor of the Liberals. On Oct. 16 a conciliation conference was opened at Bern with President Ruchonnet in the chair. The killing of Rossi, who fell by a rifle ball, was traced to a man named Castioni, who went to England, where he had resided for many years. The Federal Government asked for his extradition and the Solicitor-General of the English Government, who argued the case for the Federal Council suggested that he was actuated by revenge, his brother having been killed by Conservatives in a recent political disturbance. The English judges decided that no *prima facie* case showing private motives was made out and denied the extradition on the ground that the killing of Rossi was a political offense, in that it occurred in the midst of a revolutionary rising amounting to insurrection and civil war.

T

TENNESSEE, a Southern State, admitted to the Union June 1, 1796; area, 42,050 square miles. The population, according to each decennial census since admission, was: 105,602 in 1800; 261,727 in 1810; 422,771 in 1820; 681,904 in 1830; 829,210 in 1840; 1,002,717 in 1850; 1,109,801 in 1860; 1,258,520 in 1870; 1,542,359 in 1880; 1,767,518 in 1890. Capital, Nashville.

Government.—The following were the State officers during the year: Governor, Robert L. Taylor, Democrat; Secretary of State, Charles A. Miller; Treasurer and Insurance Commissioner, M. F. House; Comptroller, J. W. Allen; Attorney-General, G. W. Pickle; Superintendent of Public Instruction, Frank M. Smith; Commissioner of Agriculture, Statistics, and Mines, B. M. Hord; Chief Justice of the Supreme Court, Peter Turney; Associate Justices, W. C. Caldwell, B. L. Snodgrass, H. H. Lurton, and W. C. Folkes, who died on May 17, and was succeeded by W. D. Beard until the August election, when Benjamin J. Lea was chosen by the people to fill the vacancy.

Finances.—The funded State debt on Dec. 20, the end of the fiscal year, amounted to \$14,110,900. There also remained outstanding an unfunded balance of the old debt amounting to \$2,239,000, which the holders have hitherto refused to exchange for funding bonds, making the total permanent indebtedness \$16,349,900. To meet the interest accruing thereon, the State has been obliged for several years to procure temporary loans, of which the amount outstanding on Dec. 20 was \$459,797.10. This year, for the first time, the ordinary revenues were more

than sufficient to support the State government and to meet the entire interest charge. For the two years ending Dec. 20, the regular receipts exceeded those of the preceding biennial period by \$416,508.73.

The total valuation of taxable property for 1890 was \$347,508,105, an increase of about \$25,000,000 over the valuation of 1889. The rate of taxation for State purposes is 30 cents, and for education 15 cents on each \$100.

County Debts.—The total debt of Tennessee counties in 1890 was \$2,237,650, a decrease of \$822,886 in ten years. Of this total, all except \$170,868 is a bonded debt. Half of the counties have no debt.

Legislative Sessions.—On Feb. 11 Gov. Taylor issued a proclamation calling a special session of the Legislature to meet at Nashville on Feb. 24. The ballot-reform law of 1889 was re-enacted at this session, with such additions and alterations as were necessary to cure obvious defects. Its provisions are now applicable to all counties having 70,000 inhabitants or over, and to all cities having 9,000 inhabitants or over, according to any Federal census, and not merely according to the census of 1880. Any person who does not obtain a place on the official ballot, but who desires to be a candidate, may have tickets printed bearing his name, which may be distributed to voters at the polling places for use by them as a guide in writing the name of the candidate on the official ballot. The registration law of 1889 was also re-enacted with amendments necessary to bring it into harmony with the ballot-reform act. Its provisions are now

applicable to all counties of 70,000 inhabitants or over, and to all cities, towns, and civil districts having 2,500 inhabitants or over, according to any Federal census. An act was also passed, in conformity with the provisions of the State Constitution, requiring the payment of a poll tax for the preceding year as a prerequisite for voting. Other acts of the session were as follow:

To enable the city of Chattanooga to issue bonds for public improvements on streets and sewers, and to create a board of public works for that city.

Enlarging the corporate limits of the city of Nashville (several acts).

To abolish James County, and to restore the territory embraced therein to the counties of Bradley and Hamilton, to which it formerly belonged.

Empowering the city of Chattanooga to subscribe for \$100,000 of the capital stock of the Chattanooga, Rome, and Columbus Railroad.

Pursuant to a joint resolution passed March 13, final adjournment of the session was reached at noon on March 15, but the members were immediately called together for a second special session by a proclamation of the Governor. The only business that he proposed was to extend the corporate limits of the taxing district of Shelby County. Such an act was passed on March 18, and both Houses adjourned.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Anderson.....	10,820	15,128	4,308
Bedford.....	26,025	24,789	• 1,286
Benton.....	9,780	11,230	1,450
Bledsoe.....	5,617	6,181	517
Blount.....	15,985	17,559	1,604
Bradley.....	12,124	13,607	1,483
Campbell.....	10,005	13,486	3,481
Cannon.....	11,850	12,197	348
Carroll.....	22,108	28,630	1,527
Carter.....	10,019	13,839	3,870
Cheatham.....	7,956	8,845	889
Chester.....	.....	9,069	9,069
Claiborne.....	13,373	15,163	1,790
Clay.....	6,987	7,260	273
Cocke.....	14,808	16,523	1,715
Coffee.....	12,804	18,827	933
Cockett.....	14,109	15,146	1,037
Cumberland.....	4,538	5,376	838
Davidson.....	79,026	108,174	29,148
Decatur.....	8,498	8,995	497
De Kalb.....	14,818	15,650	837
Dickson.....	12,640	18,645	1,785
Dyer.....	15,118	19,878	4,760
Fayette.....	31,871	28,878	• 2,993
Fentress.....	5,941	5,226	• 715
Franklin.....	17,178	18,929	1,751
Gibson.....	39,685	53,874	14,189
Giles.....	36,014	34,957	• 1,057
Grainger.....	12,884	13,196	312
Greene.....	24,005	26,614	2,609
Grundy.....	4,592	6,345	1,753
Hamblen.....	10,187	11,418	1,231
Hamilton.....	28,642	53,482	29,840
Hancock.....	9,098	10,342	1,244
Hardeman.....	22,921	21,029	• 1,892
Hardin.....	14,793	17,698	2,905
Hawkins.....	20,610	22,246	1,636
Heardson.....	28,053	29,568	• 2,495
Henry.....	17,430	16,336	• 1,094
Hickman.....	22,142	21,070	• 1,072
Holston.....	12,695	14,499	2,404
Humphreys.....	4,295	5,390	1,095
Humphreys.....	11,379	11,720	341
Jackson.....	12,008	13,325	1,317
James.....	5,187	4,908	• 284
Jefferson.....	15,846	16,478	632
Johnson.....	7,766	8,538	1,062
Knox.....	39,124	59,357	20,233
Lake.....	8,965	5,894	1,336

COUNTIES.	1880.	1890.	Increase.
Lauderdale.....	14,918	18,756	3,838
Lawrence.....	10,383	12,286	1,903
Lewis.....	7,181	7,555	374
Lincoln.....	26,960	27,382	422
Loudon.....	9,148	9,273	125
Macon.....	9,321	10,758	1,437
McMinn.....	15,064	17,890	2,826
McNairy.....	17,271	15,510	• 1,761
Madison.....	30,874	30,497	• 377
Marion.....	10,910	15,411	4,501
Marshall.....	19,259	18,906	• 353
Mauzy.....	39,904	38,112	• 1,792
Meigs.....	7,117	6,930	• 187
Monroe.....	14,283	15,329	1,046
Montgomery.....	28,451	29,697	1,246
Moore.....	6,293	6,975	• 682
Morgan.....	5,156	7,689	2,533
Obion.....	22,912	27,273	4,361
Overton.....	12,153	12,089	• 64
Perry.....	7,174	7,785	611
Pickett.....	.....	4,786	4,786
Polk.....	7,269	8,861	1,592
Putnam.....	11,501	13,658	2,157
Rhea.....	7,073	12,647	5,574
Roane.....	15,287	17,418	2,131
Robertson.....	18,801	20,078	1,277
Rutherford.....	36,741	35,097	• 1,644
Scott.....	6,021	9,794	3,773
Sequatchie.....	2,565	3,027	462
Seyler.....	15,541	18,761	3,220
Shelby.....	78,480	112,740	34,260
Smith.....	17,799	18,404	605
Stewart.....	12,690	12,198	• 492
Sullivan.....	18,821	20,879	2,058
Sumner.....	29,625	23,668	• 5,957
Tipton.....	21,083	24,271	3,188
Trousdale.....	6,646	5,850	• 796
Union.....	8,645	4,619	• 3,974
Van Buren.....	10,260	11,459	1,199
Warren.....	2,383	2,568	• 185
Washington.....	14,079	14,418	339
Wayne.....	16,181	20,354	4,173
Weakley.....	11,301	11,471	170
White.....	24,588	28,955	4,367
Williamson.....	11,176	12,848	1,672
Wilson.....	28,318	26,321	• 1,997
.....	28,747	27,148	• 1,599
Total.....	1,542,859	1,767,518	224,659

* Decrease.

Education.—The following public-school statistics, covering the school year ending June 30, 1889, are reported by the State Superintendent: Children of school age (between six and twenty-one years), white males 257,379, white females 244,751, colored males 85,019, colored females 84,455, total 671,604; pupils enrolled, 404,307; average daily attendance, 260,454; average length of school year in days, 85; teachers employed, 7,561; average monthly wages, \$30.40; schools—white 5,377, colored 1,496, total 6,873; school-houses, 5,701; erected during the year, 258. The balance of school money on hand July 1, 1888, was \$488,539.28. There were received during the year from the State \$139,240.31; from the counties, \$1,247,386.77; from all other sources, \$131,549.28, making the total receipts \$2,006,715.64. The total expenditures, including \$1,059,440.57 for salaries of teachers and \$89,613.06 for buildings and repairs, amounted to \$1,295,279.85, leaving a balance on June 30, 1889, of \$711,435.79. During the same year 1,125 private schools reported 42,957 pupils and an average attendance of 27,374, with 1,492 teachers.

Penitentiary.—On Dec. 1 there were 1,468 prisoners in the State Penitentiary, of whom 314 were in the main prison at Nashville, 875 at Tracy City, 306 at Human, 102 at Morrow's Farm, 163 at Oliver Springs, 72 at Etna, and

136 at Coal Creek. The number in confinement on Dec. 1, 1888, was 1,363, the increase for the two years being 105. Late in October nearly all the workshops and several cottages connected with the prison buildings at Nashville were destroyed by fire, involving a loss of about \$45,000, which was covered by insurance.

Political.—A Governor for the term of two years, and a justice of the Supreme Court to succeed Justice Folkes, deceased, were to be chosen on a general State ticket this year. For the gubernatorial office the Prohibitionists in State convention at Nashville, on June 4, nominated David C. Kelly, on a platform that included the following:

The fact that more than 100,000 voters in the State are illiterate shows that the State school system is not meeting the demands of safe government.

We arraign the Democracy, the dominant party in the State, for the non-enforcement of law against gambling, and the sale of liquor to minors, drunkards, and on the Sabbath day.

Our immigration laws should be so amended and enforced as to prevent the introduction into our country of contract labor, convicts, inmates of dependent institutions, and others physically incapacitated for self-support.

No person should be allowed to vote who has not been a resident of the United States ten years, and can read the Constitution of the United States in English.

The Democratic State Convention, which met at Nashville on July 17, nominated John P. Buchanan for Governor on the twenty-sixth ballot. He was a leader of the State Farmer's Alliance, and the candidate of that organization. For the judicial office the convention nominated Benjamin J. Lea. The following is a portion of the platform:

We demand a currency of gold and silver, and also of paper, convertible into coin at the option of the holder, and we demand the free coinage of silver on the basis originally fixed by law, and that it and the gold dollar shall be equally a unit of value.

Good public roads we regard as a necessity to the rapid and steady development of our State, and we favor such legislation as will tend to their establishment.

The Republican State Convention at Nashville, on July 30, nominated Lewis T. Baxter for Governor, and adopted a platform containing the following:

We denounce the administration of the Democrats of this State as weak, short-sighted, non-progressive and unpatriotic. It has failed during peace and prosperity among the people to lessen the burdens of taxation; it has permitted our State debt to be increased; it has injured our public credit abroad; it has forced upon the people and is maintaining the infamous penitentiary lease monstrosity, which is a disgrace upon our civilization and a blight upon the prosperity of every community wherever operated. It has, by a system of mean and oppressive election laws discriminated in every instance against the poor and illiterate citizen of the State. They force the poor man to pay his poll tax before he exercises the right to cast his vote, but say nothing about the rich man's property tax.

It has by an unjust system of double taxation crippled and destroyed the business of hundreds of citizens, driven capital from our State, and retarded the growth of business enterprises all over the State.

Believing that the small property owners bear an unjust proportion of the burden of taxation, we are in favor of an amendment to the Constitution which

will exempt from taxation \$1,000 on valuation, whether real or personal.

We favor the passage of a law which will require the several counties to keep up the public roads by the labor of all convicts in this State convicted of minor felonies, thereby reducing to that extent the burdens of taxation from the people, and at the same time preventing convict labor from competing with the honest labor of the country.

For Justice of the Supreme Court the Republican nominee was W. M. Smith. The election for this office occurred on Aug. 7, and resulted in the choice of B. J. Lea, the Democratic candidate, by a large majority. At the November election Buchanan was elected Governor by a vote of 113,549 to 76,081 for Baxter, and 11,082 for Kelly. Members of the State Legislature were chosen at this election as follow: Senate, Democrats 25, Republicans 8; House, Democrats 79, Republicans 20.

In the congressional districts 2 Republican and 8 Democratic Congressmen were elected, a gain of 1 seat by the Democrats.

TERRY, ALFRED HOWE, military officer, born in Hartford, Conn., Nov. 10, 1827; died in New Haven, Conn., Dec. 16, 1890. He removed at an early age to New Haven, where he was educated in the public schools and in the Yale



ALFRED HOWE TERRY.

Law School, and was admitted to the bar in 1849. About the time he began practicing he became deeply interested in the State militia, and in 1854, when he was chosen clerk of the Superior Court of Connecticut, he was appointed colonel of the Second Regiment. He held the office of clerk in the Superior and Supreme Courts till 1860. In 1858, while on a vacation, he spent much time inspecting and studying the defenses and battle fields of the Crimea, the important fortifications of England and France, and the military systems of Europe. In response to President Lincoln's first call for three-months' volunteers, he tendered the services of himself and his regiment, was mustered into the service May 7, 1861, and commanded the regiment in the first Battle of Bull Run. He was mustered out of service on Aug. 7, organized the Seventh Connecticut Infantry, and re-entered the service as its colonel, Sept. 17. In the volunteer army he was promoted brigadier-general, April 25, 1862; brevetted major-general Aug. 26, 1864; appointed major-general provisionally Jan. 15, 1865; commissioned in full rank April 20, following; and was mustered out of service Sept. 1, 1866. In the regular army he was appointed brigadier-

general Jan. 15, 1865; was promoted major-general March 3, 1886; and was retired for disability incurred in the line of duty April 5, 1888. He was brevetted major-general of volunteers Aug. 26, 1864, for meritorious and distinguished services during the war, and major-general in the regular army March 13, 1865, for the capture of Wilmington, N. C.

After taking the field the second time, he commanded his regiment at the capture of Port Royal, S. C., taking possession of Fort Walker; and in the siege of Fort Pulaski his regiment operated five mortar batteries, and after the surrender occupied the works. On May 23, 1862, he was assigned to the command of the First Brigade, Benham's division, Army of the South. He took part in the action at Pocotaligo and the early operations against Charleston, commanded the forces on Morris Island during the siege of Forts Sumter and Wagner, and afterward was appointed commander of the northern district of the Department of the South, including the islands in Charleston harbor. Early in 1864 he was transferred to Virginia and assigned to the command of the First Division of the Tenth Army Corps, under Gen. Quincy A. Gillmore, with whom he had served in South Carolina. In this campaign he participated in the actions at Chester Station, Drury's Bluff, Bermuda Hundred, Fussell's Mills, Deep Bottom, those on the Newmarket, Darbytown, and Williamsburg roads; and in the siege of Petersburg. In December, 1864, his corps was merged into the Twenty-fourth Army Corps, and he was placed in command of its First Division. In the same month an attempt to capture Fort Fisher, which commanded the sea approaches to Wilmington, N. C., by an expedition under Gen. Benjamin F. Butler, resulted in failure. Gen. Grant was determined to secure the works, and ordered Gen. Terry to prepare a second expedition in co-operation with Admiral Porter, and renew the attempt. Gen. Terry received his orders on Jan. 2, 1865, and on the 12th was at the point of rendezvous agreed upon with Admiral Porter. The naval commander gathered a fleet of 44 vessels, mounting more than 500 guns, and approached the works. At the appointed time Gen. Terry landed his troops 5 miles above the fort, and, unknowingly, directly in front of a division of Confederates under Gen. Robert F. Hoke. In preparation for a siege he began constructing intrenchments, but a reconnaissance convinced him of the impracticability of a siege in midwinter, and he determined to attempt the capture of the works by a sudden assault under fire of the fleet. At eleven o'clock on the morning of the 15th, Admiral Porter opened fire on the fort, and within an hour and a half threw more than 20,000 shots against it. Gen. Terry sent a brigade under Gen. Newton M. Curtis to a point 200 yards from the western side of the northern face of the fort, and pushed forward to a supporting distance the remainder of Gen. Ames's division. At 3.30 p.m. Gen. Terry signaled Admiral Porter that he was ready for the assault. The fleet reopened fire to divert attention from the point of land attack, and the army advanced, while a force of 2,000 sailors and marines from the fleet rushed toward the eastern side of the face of the fort. Hand-to-

hand fighting of the most desperate character ensued, the Confederates retreating slowly from one traverse to another. By five o'clock 9 of the traverses of the fort were captured; by nine o'clock 2 more were carried; and at ten o'clock Gen. Terry received the surrender of the works with 1,971 men and 112 officers, besides an immense amount of artillery, small arms, and ammunition. His loss was 88 killed and 503 wounded. For this great victory Gen. Terry received promotion, the personal congratulations of Gen. Grant, and the thanks of both Houses of Congress. The occupation of Wilmington and all the other works defending it soon followed. In April, 1865, Gen. Terry co-operated with Gen. Sherman in North Carolina, and after the occupation of Richmond he was placed in command of the Department of Virginia. After the war he commanded the Departments of Dakota and the South, and the Military Division of the Missouri, with headquarters in Chicago. While commanding the Department of Dakota he led the expedition, in 1876, against the Sioux Indians under Sitting Bull (*q. v.* in this volume), and drove the hostiles to seek refuge in Canada.

TEXAS, a Southern State, admitted to the Union Dec. 29, 1845; area, 265,780 square miles. The population, according to each decennial census since admission, was: 212,592 in 1850; 604,215 in 1860; 818,759 in 1870; 1,591,749 in 1880; and 2,235,523 in 1890. Capital, Austin.

Government.—The following were the State officers during the year: Governor, Lawrence S. Ross, Democrat; Lieutenant-Governor, T. B. Wheeler; Secretary of State, J. M. Moore; Treasurer, Frank R. Lubbock; Comptroller, John D. McCall; Attorney-General, James S. Hogg; Superintendent of Public Instruction, Oscar H. Cooper, who resigned in August and was succeeded by H. Carr Pritchett; Commissioner of the General Land Office, R. M. Hall; Chief Justice of the Supreme Court, John W. Stayton; Associate Justices, Reuben E. Gaines and John L. Henry; Commission of Appeals, Presiding Judge, Walter Acker, Judges, W. E. Collard and Edwin M. Hobby; Court of Appeals, Presiding Judge, John P. White, Judges, James M. Hurt and Samuel A. Willson.

Finances.—The receipts of the State treasury for the year ending Aug. 31, 1890 (including the balance from the preceding year), were \$2,085,171.61, and the disbursements \$1,908,727.43, leaving a cash balance of \$618,622.66 at the close of the year. The Comptroller estimates the receipts for the next two years at \$4,926,622.66, and disbursements for all purposes \$4,205,593.02, leaving a balance on hand Aug. 31, 1892, of \$721,639.04.

Nearly all of the State revenue is derived from the *ad valorem* tax on property. For 1890 the rate was 20 cents on each \$100, and the assessed valuation of all taxable property was \$782,121,883. There has been no change during the year in the State debt, which remains at \$4,437,730. Of this sum \$3,017,100 is held by the State in various permanent funds, and \$1,220,630 is held by individuals.

County Debts.—The total debt of Texas counties in 1890 was \$6,678,563, an increase of \$4,179,276 in ten years. Of this total, \$6,166,072 is a bonded debt and \$512,491 a floating debt.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population in 1880:

COUNTIES.	1880.	1890.	Increase.
Anderson	17,395	20,923	3,528
Andrews	24	24	0
Angelina	5,239	6,306	1,067
Aransas	996	1,824	828
Archer	596	2,101	1,505
Armstrong	31	944	913
Atascosa	4,217	6,459	2,242
Austin	14,429	17,559	3,130
Bandera	2,159	3,782	1,623
Bastrop	17,215	20,736	3,521
Baylor	715	2,595	1,880
Bee	2,298	3,720	1,422
Bell	20,513	33,297	12,779
Bexar	30,470	49,266	18,796
Blanco	3,583	4,635	1,052
Borden	35	29	* 6
Bosque	11,217	14,157	2,940
Bowie	10,965	20,267	9,302
Brazoria	9,774	11,596	1,822
Brazos	18,576	16,650	3,074
Brewster	12	710	710
Briscoe	12	11,350	2,945
Brown	8,414	3,001	3,866
Buchel	307	307	0
Burleson	9,243	10,721	1,478
Burnet	6,555	15,679	9,124
Caldwell	11,757	815	* 924
Calhoun	3,533	5,484	1,951
Callahan	14,320	14,424	104
Cameron	5,931	6,624	693
Carson	356	856	500
Cass	16,724	22,554	5,830
Castro	9	9	0
Chambers	2,187	2,241	54
Cherokee	16,723	22,975	6,252
Childress	25	1,175	1,150
Clay	5,045	7,563	2,518
Coke	3,098	6,088	2,990
Coleman	25,988	36,736	10,748
Collin	6	357	351
Collingsworth	6	357	351
Colorado	16,673	19,512	2,839
Comal	5,546	6,398	852
Comanche	8,008	16,933	7,925
Concho	800	1,059	259
Cooke	20,391	24,696	4,305
Coryell	10,924	16,816	5,892
Cottle	24	240	216
Crane	121	15	106
Crockett	82	194	112
Crosby	127	346	219
Dallam	75	75	0
Dallas	39,488	67,042	27,554
Dawson	24	222	198
Deaf Smith	38	179	141
Delta	5,537	9,117	3,580
Denton	18,148	21,289	3,141
Do Witt	10,082	14,307	4,225
Dickens	28	285	257
Dimmit	665	1,049	384
Donley	160	1,056	896
Duval	5,732	7,598	1,866
Eafland	4,355	10,343	5,988
Ector	224	224	0
Edwards	266	1,962	1,696
Ellis	21,294	31,774	10,480
El Paso	3,845	15,678	11,833
Encinal	1,902	1,922	20
Erath	11,796	21,515	9,719
Falk	10,440	20,706	10,266
Fannin	25,591	38,709	13,118
Fayette	27,906	31,451	3,545
Fisher	136	2,996	2,860
Floyd	3	529	526
Foley	16	16	0
Fort Bend	9,380	10,586	1,206
Franklin	5,280	6,481	1,201
Freestone	14,921	15,987	1,066
Frio	2,130	3,112	982
Gaines	68	68	0
Galveston	24,121	31,476	7,355
Garza	36	14	* 22
Gillespie	5,228	7,028	1,800
COUNTIES.	1880.	1890.	Increase.
Glasscock	208	208	0
Goliad	5,832	5,910	78
Gonzales	14,840	18,016	3,176
Gray	56	303	247
Grayson	38,108	53,211	15,103
Greer	5,338	5,338	0
Gregg	6,530	9,402	2,872
Grimes	18,608	21,312	2,704
Guadalupe	12,202	15,217	3,015
Hale	721	721	0
Hall	36	708	672
Hamilton	6,965	9,279	2,314
Hansford	15	183	168
Hardeman	50	3,904	3,854
Hardin	1,870	3,956	2,086
Harris	27,985	87,249	59,264
Harrison	25,177	26,721	1,544
Hartley	100	252	152
Haskell	48	1,665	1,617
Hays	7,555	11,352	3,797
Hemphill	149	519	370
Henderson	9,735	12,285	2,550
Hidalgo	4,947	6,534	1,587
Hill	27,585	31,029	3,444
Hood	6,125	7,551	1,426
Hopkins	15,461	20,572	5,111
Houston	16,702	19,360	2,658
Howard	50	1,210	1,160
Hunt	17,230	31,885	14,655
Hutchinson	50	58	8
Iron	870	870	0
Jack	6,626	9,740	3,114
Jackson	2,728	3,251	523
Jaeger	5,779	5,779	0
Jeff Davis	3,459	1,394	1,394
Jefferson	5,507	2,868	2,639
Johnson	17,911	22,313	4,402
Jones	546	3,797	3,251
Karnes	3,270	3,637	367
Kaufman	15,448	21,588	6,140
Kendall	2,768	3,809	1,041
Kent	92	324	232
Kerr	2,168	4,445	2,277
Kimble	1,348	2,294	946
King	40	178	138
Kinney	4,457	3,581	* 876
Knox	77	1,134	1,057
Lamar	27,193	37,392	10,199
Lamb	4	4	0
Lampasas	5,421	7,565	2,144
Lavaca	789	2,139	1,350
Lee	8,987	11,952	2,965
Leon	12,817	18,841	6,024
Liberty	4,999	4,230	* 769
Limestone	16,346	21,678	5,332
Lipscomb	69	69	0
Live Oak	1,994	2,055	61
Llano	4,962	6,739	1,777
Loving	8	8	0
Lubbock	25	88	63
Lynn	9	24	15
McClulloch	1,538	3,205	1,667
McLennan	26,934	39,204	12,270
McMullen	701	1,098	397
Madison	5,395	8,512	3,117
Marion	10,969	10,969	0
Marshall	12	264	252
Mason	2,655	5,168	2,513
Matagorda	3,940	3,940	0
Maverick	2,967	3,698	731
Medina	4,492	5,730	1,238
Menard	1,289	1,287	* 2
Midland	1,693	1,693	0
Milam	18,659	24,773	6,114
Mills	5,480	5,480	0
Mitchell	117	2,029	1,912
Montague	11,257	18,868	7,611
Montgomery	10,154	11,765	1,611
Moore	15	15	0
Morris	5,082	6,580	1,498
Motley	24	139	115
Nacogdoches	11,590	15,984	4,394
Navarro	21,702	26,378	4,676
Newton	4,359	4,650	291
Nolan	640	1,573	933
Nueces	7,673	8,068	395
Onitza	108	108	0
Oldham	270	270	0
Orange	2,368	4,770	2,402

COUNTIES.	1880.	1890.	Increase
Palo Pinto.....	5,885	8,890	2,495
Panola.....	12,219	14,328	2,109
Parker.....	15,770	21,692	5,812
Parmer.....	7	7	7
Pecos.....	1,807	1,826	* 481
Polk.....	7,189	10,382	3,143
Potter.....	28	849	* 821
Presidio.....	2,578	1,698	* 1,175
Rains.....	8,035	8,969	* 814
Randall.....	8	187	184
Red River.....	17,194	21,452	4,258
Reeves.....	1	1,247	1,247
Refugio.....	1,585	1,239	* 346
Roberts.....	82	826	294
Robertson.....	22,383	26,506	4,123
Rock wall.....	2,984	5,972	2,988
Russell.....	980	3,182	2,202
Rusk.....	18,986	18,559	* 427
Sabine.....	4,161	4,969	808
San Augustine.....	5,084	6,688	1,604
San Jacinto.....	6,196	7,389	1,174
San Patricio.....	1,010	1,892	882
San Saba.....	5,824	6,621	1,297
Schleicher.....	155	155	155
Scurry.....	102	1,415	1,313
Shackelford.....	2,087	2,012	* 25
Shelby.....	9,528	14,465	4,942
Sherman.....	71	71	71
Smith.....	21,863	28,324	6,461
Somervell.....	2,649	3,411	762
Starr.....	8,294	10,082	1,748
Stephens.....	4,725	4,926	201
Stonewall.....	104	1,024	920
Sutton.....	1	658	658
Swisher.....	4	100	96
Tarrant.....	24,671	41,142	16,471
Taylor.....	1,786	6,946	5,210
Terry.....	21	21	21
Throckmorton.....	711	902	191
Titus.....	5,950	8,190	2,231
Tom Green.....	8,615	5,152	1,587
Texas.....	27,028	37,019	9,991
Trinity.....	1,915	7,648	2,733
Tyler.....	5,825	10,877	5,052
Upton.....	10,266	12,695	2,429
Uvalde.....	52	52	52
Uvalde.....	2,541	3,804	1,263
Val Verde.....	2	2,874	2,874
Van Zandt.....	12,619	16,225	3,606
Victoria.....	6,289	8,787	2,448
Walker.....	12,024	12,874	1,850
Waller.....	9,024	10,888	1,864
Ward.....	77	77	77
Washington.....	27,562	29,161	1,596
Webb.....	5,273	16,564	11,291
Wharton.....	4,549	7,584	3,035
Wheeler.....	512	778	266
Wichita.....	483	4,831	4,308
Wilbarger.....	126	7,092	6,966
Williamson.....	15,155	25,878	10,723
Wilson.....	7,118	10,655	3,587
Winkler.....	18	18	18
Wise.....	16,091	24,184	7,933
Wood.....	17,212	18,982	2,720
Yoakum.....	4	4	4
Young.....	4,726	5,049	823
Zapata.....	8,686	8,562	* 74
Zavalla.....	410	1,097	687
Total.....	1,591,749	2,285,538	643,774

* Decrease.

Education.—The following figures present a summary of the work of the public schools for the last two years.

Summary of community counties:

	1888-'89.	1889-'90.
School communities.....	8,358	4,370
Schools taught.....	4,276	4,437
Average term in months.....	4'84	4'84
Scholastic population.....	181,838	183,099
School houses built in one year.....	149	131
School fund apportioned.....	\$899,374	\$908,359
School fund paid teachers.....	\$54,247	\$61,628
Private fund paid teachers.....	\$22,204	\$24,282

Summary of district counties:

	1888-'89.	1889-'90.
School districts.....	8,582	8,581
Schools taught.....	4,652	4,628
Average term in months.....	5	5'01
Total enrolled.....	213,785	228,970
School fund apportioned.....	\$1,068,880	\$1,077,168
School fund paid teachers.....	\$952,837	\$961,788
Private fund paid teachers.....	\$47,435	\$47,488

Summary of cities:

	1888-'89.	1889-'90.
Scholastic population.....	92,116	86,779
Enrollment.....	58,190	59,756
Average school term in months.....	7'35	7'62
Total expenditures.....	\$3,058,966	\$3,178,295
Counties' permanent fund.....	\$3,828,240	\$3,421,580

The available school fund, from which a semi-annual apportionment is made to the counties for the support of schools, is derived principally from a State school tax of 12½ cents on each \$100, from one fourth of all occupation taxes, and from the poll tax. For 1889 the apportionment from this fund was at the rate of \$4 for each child of school age, and there remained a balance in the fund at the end of the year of \$54,242.35. For 1890 the receipts were so large that an apportionment of \$4.50 for each child was possible for that year. The balance at the close of the year was \$40,266.76.

The State supports a normal school for white pupils at Huntsville, at which the enrollment for the past year was about 300, and a similar school for colored pupils at Prairie View, where 155 pupils attended during the same year. The State University and the Agricultural and Mechanical College are well attended.

Charities.—At the Institute for the Blind 144 pupils were enrolled during the year ending Aug. 31. The amount expended for support was \$35,559.58, and for improvements \$5,829.03.

There were 214 pupils at the Institute for the Deaf and Dumb for the year, the average attendance being 177. At the Institute for the Colored Deaf, Dumb, and Blind, 64 pupils were enrolled during the year. The expenditures for the last biennial period were \$24,552.48. The State Orphan Asylum has furnished a home for 54 children during the last two years and has cost the State \$20,843.58.

Prisons.—The report of the State Penitentiary for the two years ending Oct 31, is as follows: Convicts on Nov. 1, 1888, 3,302; admitted during the period, 2,012; discharged, 2,115; remaining on Oct. 31, 1890, 3,199. The State derived a net profit of \$177,066.53 from the institution during the period. A part of the prisoners are employed at various industries in or about the prison buildings, or on farms owned by the State, while others are leased to individuals for farm work and for railroad building. About 800 convicts were leased during the year for farm work, and about 450 for railroad work.

The State Reformatory, which was opened on Jan. 1, 1889, contained 111 inmates on Oct. 31 of this year. The management of the institution has been satisfactory. The inmates have been employed in useful occupations, earning sufficient money to pay for all their clothing and for minor necessities.

Militia.—The State Militia, which consists of 2,610 officers and men, was maintained at a cost of \$9,377.17 for the last two years. The State also supports an active force of 32 men, known as the ranger force, whose duty it is to preserve order and enforce the law along the exposed borders of the State. The cost of this force for the two years was \$44,285.01.

Public Lands.—The report of the State Commissioner for the past two years shows that 6,577 patents were issued, covering 3,115,968 acres, against 10,584 covering 7,580,356 acres for the two preceding years, and against 13,700 covering 8,017,729 acres for the two years ending Aug. 31, 1886. In former years the State was prodigal with its public lands, granting to railroads 38,837,120 acres, and to other internal improvement companies 5,128,320 acres; but a change of policy has been made, and the remaining public lands are reserved for actual settlers. Of the original grants to corporations the railroads have forfeited 3,926,080 acres, and the other improvement companies 141,760 acres, through failure to comply with the terms of the grant, and their actual holdings are reduced by these amounts from the figures given above.

Under the act of April 1, 1887, providing for the sale or lease of school, university, and asylum lands, the Commissioner has sold in the past two years nearly 2,000,000 acres, adding to the permanent school fund about \$4,500,000, and has leased about 8,000,000 acres. The interest on these sales now yields the available school fund about \$200,000 annually, and the annual revenue from the leases adds \$300,000 to this fund.

Deep Harbor at Galveston.—The movement to secure a deep harbor on the Gulf of Mexico, to which the products of the States west of Mississippi river may be carried for transshipment by sea, reached a successful conclusion in September of this year by the passage through Congress of the River and Harbor Bill. That measure contained an appropriation of \$500,000 for the improvement of Galveston harbor, and further authorized the Secretary of War to contract for the completion of the work according to a survey made in 1886 by Government engineers, who have estimated the cost at \$6,200,000. The deepening and improving of the harbor according to that survey is, therefore, a matter of only a few years.

Political.—On May 13 a State Convention of the Prohibition party met at Fort Worth, and nominated a State ticket, headed by E. C. Heath for Governor and J. M. Thomson for Lieutenant-Governor. The platform contained the usual resolutions against liquor-selling.

The Democratic State Convention was called to meet at San Antonio on Aug. 13. Early in the year several aspirants announced their candidacy for the gubernatorial nomination and entered into an active contest therefor. The chief question in this preliminary contest was whether a railroad commission, with full powers to regulate railroad rates and traffic, should be established. The leading champion of such a measure was Attorney-General Hogg, who secured a large majority of the delegates to the convention, and was nominated on the first ballot without substantial opposition, and the following persons were chosen as his associates: For Lieutenant-

Governor, George C. Pendleton; for Treasurer, W. B. Wortham; for Comptroller, John D. McCall; for Attorney-General, Charles A. Culbertson; for Superintendent of Public Instruction, H. Carr Pritchett; for Commissioner of the General Land Office, W. L. McGaughey. The platform contains the following declarations:

We believe that it is the right and duty of the State to regulate and control the public highways within her limits, and that effective regulation is impracticable without the agency of a railroad commission; therefore we recommend an amendment to Article X, section 2, of the Constitution of the State, relating to railroads, submitted to a vote of the people by the last Legislature, and we demand and pledge the enactment of a law creating a commission covered with all power necessary to prevent abuses and discriminations, and to make, establish, and maintain reasonable rates of railway charges for transportation of passengers and freight having origin and destination within the limits of this State.

We demand that, as a general diffusion of knowledge is essential to the preservation of the liberties and rights of the people, the constitutional provision requiring the public free schools to be maintained for a period of not less than six months of each year shall be freely and faithfully complied with, and that the university, its branches, and the other public educational institutions be properly endowed and maintained.

We demand that suitable provision be made by the State for the home of disabled confederate soldiers.

The Republicans met in State Convention at San Antonio on Sept. 5, and nominated the following ticket: For Governor, Webster Flanagan; for Lieutenant-Governor, W. K. Makemson; for Treasurer, J. B. Schmitz; for Comptroller, William Westhoff; for Attorney-General, J. T. Hayne; for Superintendent of Public Instruction, M. Lindner; for Commissioner of the General Land Office, J. K. McDonnell. The following is a part of the platform:

We unhesitatingly favor the Australian ballot system and all other proper measures that will render our elections a free and honest expression of the will of the people of our entire country.

We recognize the right of the State to control corporations and regulate transportation companies within this State, and we favor the enactment of such laws by the Legislature, and their enforcement through the courts, as will prevent unjust discrimination or extortion on the part of public common carriers as against the interest of the people of the State of Texas. We are opposed, as being contrary to the theory and genius of our Government, to clothing with legislative and judicial powers a railway commission, and oppose an amendment to Article X, section 8 of the Constitution.

We demand an adequate appropriation by the Legislature for a free school term of six months or more annually. We further demand a uniform system of textbooks, to be printed under the direction of the State Printing Board, and furnished at cost.

We commend to the people of Texas the establishment and maintenance of a home for the disabled and invalid Texas soldiers of the late war, with those enlisted by the republic, with proper provision for their maintenance at the expense of the State.

At the November election the Democratic ticket received its usual large majority. For Governor the vote was: Hogg 262,432, Flanagan 77,742, Heath 2,463. The State Legislature chosen at the same time is almost entirely Democratic, the Republicans having a few representatives in the Lower House. Two amendments to the State Constitution were adopted at this elec-

tion. The amendment providing for the establishment of a railroad commission received 178,864 affirmative and 71,385 negative votes; the amendment relating to county roads received 134,463 yeas and 73,037 nays. Eleven Democratic members of Congress were chosen.

TIN, DISCOVERIES OF, IN AMERICA.

Twenty-five years ago the world's production of tin was not more than 15,000 tons a year. Now Australia alone produces more than that quantity, and the imports into the United States from Great Britain are worth over \$25,000,000 every year. For several years the Government of the United States made a standing offer of a bonus of \$250,000 for a discovery of tin. Small deposits were found in California and Georgia, but not in quantities large enough to affect the market. In 1884 tin was found in paying quantities in the vicinity of Harney's Peak, in the Black Hills, in Dakota. The Black Hills form an oasis of rock and forest in a sea of grass. They are arranged like an irregular ellipse, extending about 120 miles from northwest to southeast, and about 50 miles wide. They take their name, which is translated from the Sioux, from the dark foliage of the pines with which they are covered. In almost every direction extend treeless plains for hundreds of miles. Harney's Peak, 7,442 feet high, is an intrusion of granite, and it forms the core, or axis, of the great uplift. Immediately surrounding the peak is a region of metamorphic slates and schists, bordered by the various members of the sedimentary rock, up to the cretaceous, lying in rudely concentric rings or belts of varying width, and dipping away on all sides of the elevatory axis. The tin ore is found in the granite region. The granite occupies an area measuring about 12 miles by 8, the principal mass being Harney's Peak itself. As a line of separation from the gneissic rocks, the granite is decided and distinct; its grain is exceedingly coarse, each constituent being highly crystalline and aggregated by itself—that is, the quartz, the feldspar, and the mica are found in large masses of crystals. This peculiar formation has led to the location of numerous mica claims, which are worked with fair profit; and the development of the mica claims led to the discovery and investigation of the tin ores, which occur in the same rocks. The tin is found in the class of rock called gneisen, which in this region differs from the variety found at Vaulry, France, in having albite instead of quartz with the mica; but in the other characteristics of crystallization and mineralization it resembles that of Vaulry and that occurring in the tin dykes of New South Wales. The gneisen is uniformly impregnated by the tin, the crystals of ore varying in size, those about a quarter of an inch in diameter being most abundant. The general appearance of the rock is that of a mass of white spar and yellowish mica crystals, well spotted with black grains and large crystals of tin, like a pudding or cake full of raisins and currants. The ore itself is the oxide of tin, known as cassiterite, and there are three forms of occurrence in general. 1. Granular, disseminated through gneisen rock; 2. Massive; 3. Placer, or stream tin, this latter being the result of the decomposition and disintegration of rock through ages of weather influences. Some oxides and carbonates of copper

are found in accretion, but they are not constantly associated. The gneisen rock is found all through the granite region of Harney's Peak. The stream tin is common, and it is distributed, like gold, in earth that results from the decomposition of gold-bearing rock. It is found in the dirt on all the streams flowing from the Harney range on the east, west, and north sides; and it has long been known, although not as tin, to the miners who were sluicing for gold. In the gold sluices it appears as a heavy black mineral, in grains from the size of a pea to that of a hen's egg. It is found in the streams as far east as Harney City, as far west as Hill City, and on the north as far as Sheridan. The outlying granite, being intrusive, extends to great depths, while the area and distribution of the mineralized portions of the granite, taken in connection with the known placer deposits, go to show that there exist in the Harney's Peak region large quantities of tin so placed that they can be economically and profitably worked. Much of the tin-bearing rock can be easily obtained. It can be quarried from the surface instead of being dug for and followed underground. Some of the veins measure more than 50 feet in width. The rock can easily be crushed, the ore concentrated, and the metal worked into bars of pure tin. The process for extracting the stream tin resembles placer mining for gold, although it is much rougher, the metal being in larger fragments and larger quantities. The stream tin yields about 75 per cent. of pure tin, while an average of only 2 per cent. is obtained from the ore in Cornwall, England. The supply seems to be inexhaustible, for the stream tin is merely the waste that has worked down from Harney's Peak.

Other mines are on Iron creek, in the vicinity of Rapid City, South Dakota, but the process of gaining the ore is by shafts. The ore is hoisted from the main shaft and dumped first into an ore bin of 200 tons capacity, located far up the mountain over the mill. From this bin it is conveyed to the mill by a wire-rope bucket tramway, the loads going down the hill to the mill and hauling the empty buckets back to the mine. The ore buckets deliver their contents mechanically into a 175-ton ore bin above and back of the mill. The large lumps of ore are crushed, then passed through a drier to a set of improved Cornish rolls, and thence elevated to a set of rotary sizing sieves. From the sieves the finer sizes are conveyed to a set of paradox concentrating tables, and the coarser sizes to common Hartz jigs. The screens, jigs, and concentrators separate completely all the mica, quartz, and feldspar, leaving clean concentrates of cassiterite, or oxide of tin, ready to be smelted into tin bar. The concentrates are for the present being shipped to Chicago to be smelted. The main vein measures from 28 to 32 feet in width at the outcrop, and over 40 feet in the lower working. Assays and tests from the different workings give an average of over 3 per cent. of metallic tin, while specimen rock is often blasted that will yield over 30 per cent. of the white metal.

Arrangements are progressing, both in this country and in Europe, for working mines in North Carolina, where tin ores are found to occur in a formation varying from 1 to 2 miles in width and extending about 28 miles in length.

One hundred veins are known, varying in thickness from a foot to more than 50 feet.

Tin is also found in Idaho. The tin mines of California have lately been sold to an English company. The ore is said to average 10 per cent. of metallic tin. The United States tariff of 1890 having discriminated against foreign tin plate, numerous companies have been chartered in Chicago, Pittsburg, St. Louis, Brooklyn, Baltimore, Minneapolis, and other cities, for the manufacture of tin plate in this country; but the process of mining and establishing manufacturing plants is slow. The tariff does not go into effect until July 1, 1891, and it will cease to have any effect on Oct. 1, 1897, unless it shall be proved to have had the effect of so stimulating American manufactures as to result in the production by American works of one third of all the tin plates used in the United States.

TUBERCULOUS DISEASES, KOCH'S REMEDY FOR. In an address delivered before the International Medical Congress in August, 1890, Dr. Robert Koch spoke of his experiments in search of a remedy for tuberculous disease by inoculation, and said that, after several failures to discover a culture the reactions of which could be depended upon, he had at last found one which would check the growth of tubercle bacillus, equally in the test tube and in animals. It had been his intention to complete the research and gain experience regarding the application of the remedy in practice and its production on a large scale before publishing anything on the subject; but distorted and exaggerated accounts of the matter having reached the public, Dr. Koch published in the "*Deutsche medicinische Wochenschrift*" of Nov. 14 a review of the position of the inquiry at that time. The investigation had then been carried on, under Dr. Koch's direction, on human patients, and these formed the subject of his communication. The remedy, the precise nature of which was not yet revealed, was described as a brownish, transparent liquid, which did not require special care to prevent decomposition, and must be diluted for use. Introduced into the stomach, it had no effect; but, to insure beneficial results, it should be injected subcutaneously, and for this purpose a syringe adapted to bacteriological work was used, and, when kept aseptic by absolute alcohol, with perfect security from danger of the formation of abscesses. The injection was made in the skin of the back, between the shoulder blades and the lumbar region, that having been found to be the spot where it led to the least local reaction and the least pain. The human subject proved to be much more sensitive to the action of the preparation than the guinea pigs on which it had been first tried. On the healthy man and on patients suffering from other diseases than tuberculosis it reacts hardly at all; but, in cases where the disease is tuberculosis, the general reaction sets up at once and is obvious. It consists in an attack of fever, which, usually beginning with rigors, raises the temperature above 39°C ., and even up to 41°C ., accompanied by pain in the limbs, coughing, great fatigue, often sickness, and vomiting. In some cases a slight icteric discoloration was observed, and occasionally an eruption like measles on the face and neck. The attack usually began four or five hours after the

injection, and lasted from twelve to fifteen hours. The patients were little affected by the attack, and soon recovered their normal or an improved feeling. The specific reaction could be plainly observed in cases where tuberculous affection was visible, as in lupus, where the anti-tuberculous action was demonstrated in a surprising degree in parts of the body remote from the place of application. The end, after the usual course of feverish swelling and healing, was the entire disappearance of the lupus affection, which does not return to its original condition, but is destroyed to a greater or less extent. The specific reactions in cases of tuberculosis of the glands, bones, joints, etc., while less striking, were still perceptible to eye and touch. The reaction of the internal organs, especially of the lungs, was not at once apparent, except in the increased cough and expectoration of consumptive patients after the first injections, but Dr. Koch felt justified in assuming that here, too, changes take place similar to those seen in the lupus cases. As far as the character of the action of the remedy has been ascertained, it appears to take place not by killing the bacilli in the tissues, which it does not seem to affect directly, but by killing the tuberculous tissue. Beyond this there are, as is shown by the visible swelling and redness, considerable disturbance of the circulation and, evidently in connection therewith, deep-seated changes in its nutrition, which cause the tuberculous tissue to die off more or less quickly and deeply, according to the extent of the action of the remedy. The remedy can only influence living tuberculous tissue. It has no effect on dead tissue, or on tissue which has been made necrotic by itself. In such masses of dead tissue living tubercle bacilli may possibly still be present, and are either thrown off with the necrosed tissue or may under certain circumstances enter the still living tissue. If the therapeutic activity of the remedy is to be rendered as fruitful as possible this peculiarity in its mode of action must be carefully observed. In the first instance the living tuberculous tissue must be caused to undergo necrosis, and then everything must be done to remove the dead tissue as soon as possible, by surgical interference if necessary. When this is not possible, and the organism can only help itself in throwing off the tissue slowly, the endangered living tissue must be protected from fresh incursions of the parasites by continuous application of the remedy. The fact that the remedy makes tuberculous tissue necrotic, and acts only on living tissues, helps to explain the fact that it can be given in rapidly increasing doses; for when there is much tuberculous tissue to be dealt with a strong reaction is readily provoked; but as on each injection a certain amount of the tissue capable of reaction disappears, comparatively large doses are necessary to produce the same amount of reaction as before. The full dose of injection in the case of lupus was 0.01 cubic centimetre. The reaction having been allowed to come to an end—after a week or two—the injection was repeated; and the process was repeated in the same way, the reactions becoming weaker and weaker with each repetition till they ceased. The cases improved in proportion to the duration of the treatment, with speedy recovery in recent and slight cases. Glandular, bone, and

joint tuberculosis were similarly treated, with large doses at long intervals, with like results. Persons with decidedly pulmonary tuberculosis were found to be much more sensitive to the remedy than those with surgical tuberculous affections, and the injection doses were diminished to 0.001 cubic centimetre, to be increased gradually, as the reactions weakened, to the full dose. The action of the remedy in case of phthisis generally showed itself by a slight increase of cough and expectoration after the first injection, then gradual diminution, and ultimate disappearance in the most favorable cases, the expectoration also losing its purulent character and becoming mucous. The number of bacilli begun to decrease as the expectoration became mucous, night sweats ceased, the appearance of the patients improved, and they increased in weight. Patients under treatment for the first stage of phthisis were regarded as cured after from four to six weeks. Patients with cavities not yet too highly developed improved considerably, and were almost cured; but in a further stage of cavities, while the expectoration decreased and the subjective condition improved, no improvement could be traced objectively. The combination of this treatment with other curative methods—such as surgical operations, mountain climate, fresh-air treatment, special diet, etc.—is suggested as an additional method of relief in severe cases. Prof. Koch further insists on the value of this remedy—it having effect only where tuberculosis exists—as an indispensable aid in diagnosis, as a measure of supposed cures, and as a detective whether there may not still be left in the system diseased spots whence tuberculosis may again arise. Later experiments, however, show that the degree of the general reaction is not invariably proportionate to the amount of tubercular disease present; but that in some few obviously tubercular cases no reaction has been produced after considerable doses, while in others, where the disease is apparently limited, the reaction has been most severe, and in some cases where patients have been tolerant of the injection during several trials they have suddenly become susceptible to it. While the protective power of the remedy as regards beasts has been established by Prof. Koch's experiments, evidence has not yet been collected to establish the immunity of the human patient from tuberculosis after a course of treatment. Attention was called by Dr. G. A. Heron, in a lecture delivered by Prof. Koch's request at the City of London Hospital for Diseases of the Chest, to the possibility of the living bacilli in the dead tubercular tissue—which are not affected by the remedy—finding a nest for themselves in the body and setting up fresh centers of tubercular disease; and the possibility was assigned as a reason for continuing the treatment for a considerable time. This point has been made prominent by Prof. Virchow, in a communication to the Berlin Medical Society and published in the "*Berliner Klinische Wochenschrift*," respecting a number of cases that proved fatal after treatment which had come under his observation. In many of those cases new tubercles had been formed, the origin of which was ascribed to the action of the remedy by which the tubercular masses having been broken down, tubercle bacilli were thrown into the circulation and carried,

in one case, to the pericardium. In consequence of these and other similar observations, Prof. Virchow came to the conclusion that the remedy should not be employed in cases in which difficulty might be expected in excreting the tubercular matter set free by the treatment. The lesson is enforced by this observation, which had already been suggested by evidence gradually accumulated in the clinics of Berlin, that Dr. Koch's remedy, at least under the present methods of administration, is not as well suited as it had been hoped it might prove to be, for advanced cases of phthisis. The fact that under some circumstances the use of the remedy promotes the tuberculous processes, and is therefore injurious, has been admitted in a later communication published by Dr. Koch, in which he also gave a partial explanation of the nature of the remedy and the mode of preparing it. It is there described as consisting of certain unknown substances extracted by means of a 40 or 50 per cent. dilution of glycerin from a pure culture of the tubercle bacillus. While some of the physical properties of the substance had been ascertained—as that it is not soluble in alcohol, but is precipitable by it—the precise nature of the active principle was still unknown to the author. It seemed to him to be an albumenoid derivative, but not to belong to the so-called toxalbumens, from which it differs by withstanding high temperatures and by passing readily through the membrane of a dialyzer. It is estimated to constitute less than 1 per cent. of the solution.

TURKEY, an empire in southeastern Europe and western Asia. The Sultan is the eldest prince of the house of Osman. Abdul Hamid II, the reigning Sultan, born Sept. 22, 1842, succeeded his elder brother, Murad V, who was deposed on Aug. 31, 1876. The Sheikh-ul-Islam, or director, under the Sultan, of religious and judicial affairs, is Omer Lufti Effendi; and the Grand Vizier, or chief of the civil administration, is Kianiil Pasha, who presides over the Council of Ministers, which was composed in 1890 of the following members: Aarifi Pasha, President of the State Council; Said Pasha, Minister of Foreign Affairs; Ali Saib Pasha, Minister of War; Hassan Pasha, Minister of Marine; Munir Pasha, Minister of the Interior; Raif Pasha, Minister of Public Works, Commerce, and Agriculture; Riza Pasha, Minister of Justice; Agob Pasha Kazazian, Minister of Finance and the Civil List; Munif Pasha, Minister of Public Instruction; Zihni Pasha, Intendant of Evkafs.

Area and Population.—The Ottoman Empire has a total area of 1,652,533 square miles and a population of 34,322,008, of whom 22,802,376 inhabit the countries under the immediate rule of the Sultan and 11,519,632 the tributary states and protectorates. The census of 1885, taken in European Turkey, makes the population 5,575,025. Constantinople had 873,565 inhabitants. The Asiatic vilayets had a population of 16,271,252.

Finances.—The receipts for the financial year 1888-'89 were estimated at 18,500,000 Turkish liras, and the expenditures at 21,400,000 liras. For 1889-'90 the deficit was expected to be 1,700,000 liras, or nearly \$8,500,000.

In accordance with an arrangement with the

creditors of the Porte, the Sultan in 1881 issued an irade ordering the emission of new certificates for the conversion and consolidation of the Ottoman debt to the amount of £92,225,827, to which must be added the reduced but non-convertible capital of the Roumelian Railroad or Turkish lottery bonds, amounting to £14,211,407 sterling, making a total of £106,437,234, in place of the original sum of £190,997,980. Up to March 1, 1887, £1,978,528 of the debt had been extinguished, leaving £104,458,706 sterling. In 1890 Agob Pasha concluded an arrangement for the conversion of the priority bonds of the Galata bankers, by which he effected an annual saving of 146,000 liras, and for the retirement of the internal debt of 600,000 liras, on which 60,000 liras of annual interest was paid. The loan raised for this purpose left a surplus of 1,500,000 liras with which to meet the deficiency in the budget. Before the operation a dissension arose in the Cabinet in reference to the deficit, which the Sultan ordered to be obviated by means of economies. The Grand Vizier and the other ministers suggested a reduction of the army as the only means of effecting a considerable saving. Agob Pasha alone objected, and promised to reduce the military expenses and still keep the army at its present expense if he was given control of the financial direction of the War Department. This reflection on the Minister of War was resented by him and by the Grand Vizier, who did his utmost to bring about the dismissal of the Armenian minister, whose administration of the finances has given satisfaction to the Sultan while it has made him many enemies in every quarter. In November, in consequence of a renewal of the quarrel in the Cabinet, Agob Pasha presented his resignation, but the Sultan would not accept it. When the new loan had been negotiated the Russian Government presented a demand, more urgent in its terms than usual, and accompanied by a threat, for the payment of the arrears of the war indemnity, amounting to 20,000,000 francs. The Porte in June agreed to pay an installment of 5,000,000 francs. The conversion scheme was sanctioned by the Sultan on April 13. In addition to £7,500,000 of 4-per-cent. bonds to replace the 5-per-cent. priority bonds, a new loan of £4,500,000 was issued, the whole being taken by a syndicate at 76.

The Army and Navy.—The peace effective of the Turkish army is approximately estimated at 12,000 officers and 170,400 men, organized as follows: Two regiments of zouaves and 56 regiments of infantry of 4 battalions each, 14 battalions of rifles, and 1 battalion of mounted infantry, numbering altogether 97,200 rank and file; 37 regiments of cavalry of 5 squadrons each, numbering 29,600; 14 regiments of field artillery, having 208 batteries of 6 guns, numbering 20,800 men; 92 companies of foot artillery, numbering 9,200; 30 companies of artificers, numbering 3,000; 50 companies of technical troops, numbering 5,000; 21 companies of train, numbering 2,100; and 3,500 men forming the cadres of 352 battalions of Redif. The reserve troops on leave number 27,000. The Redif, or Landwehr, divided into two bans, is estimated at 590,000, and the Mustahfiz, or Landsturm, at 262,000 men.

The Turkish navy has 15 armored vessels (of which 7 are frigates and 8 corvettes), 1 monitor, 2 gunboats, 27 torpedo gunboats, 25 torpedo boats, 2 Nordenfeldt submarine torpedo boats, and a large number of old vessels. There are 1 ironclad, 3 torpedo cruisers, 1 gun vessel, 5 torpedo boats, and 2 corvettes in process of construction. One of the older vessels, the frigate "Ertogrul," foundered in a typhoon off the coast of Japan on Sept. 16, 1890, and 587 officers and men were drowned.

Commerce.—The total value of imports reported by the custom-house authorities for the year ending March 1, 1889, was 1,945,665,364 piasters (the Turkish piaster, of which 100 make a lira, was formerly worth 25 cents, but now has an exchange value of only 4 cents). A uniform duty of 8 per cent. *ad valorem* is collected on all imports excepting tobacco and salt, which are monopolies assigned by the Government to its creditors. The values imported from the largest importing countries were 797,646,824 piasters from Great Britain, 345,523,796 piasters from Austria-Hungary, 252,052,425 piasters from France, 204,816,172 piasters from Germany, 96,576,772 piasters from Bulgaria, 55,487,899 piasters from Persia, 46,837,888 piasters from Italy, 47,313,683 piasters from Roumania, 38,817,782 piasters from Belgium, and 31,835,714 piasters from Greece. The exports, exclusive of tobacco, were valued at the total of 1,354,653,989 piasters. The largest amounts exported to individual countries were 500,348,993 piasters to Great Britain, 426,472,890 piasters to France, 115,463,565 piasters to Austria-Hungary, 85,108,580 piasters to Egypt, 46,419,324 piasters to Greece, 38,959,888 piasters to Italy, 36,986,333 piasters to the Netherlands, 31,598,253 piasters to Bulgaria, and 29,416,109 to Germany.

The principal articles of import were cereals of the value of 188,639,000 piasters; cottons and linens, 169,164,000 piasters; sugar, 125,951,000 piasters; coffee, 95,345,000 piasters; cotton thread, 92,315,000 piasters; cotton and wool stuffs, 68,471,000 piasters; rice, 65,432,000 piasters; animals, 62,496,000 piasters; hides and leather, 52,542,000 piasters; petroleum, 51,356,000 piasters; drugs and dyes, 47,754,000 piasters; butter and cheese, 33,092,000 piasters. The largest exports were raisins of the value of 201,747,000 piasters; cereals, 134,100,000 piasters; opium, 80,431,000 piasters; raw silk, 80,200,000 piasters; mohair, 60,536,000 piasters; wool, 56,272,000 piasters; oak galls, 54,400,000 piasters; coffee, 53,895,000 piasters; figs, 42,357,000 piasters; olive oil, 40,572,000 piasters; cotton, 39,954,000 piasters; cocoons, 33,338,000 piasters; drugs and dyes, 32,534,000 piasters; animals, 26,796,000 piasters; carpets, 19,628,000 piasters; dates, 17,939,000 piasters.

Navigation.—The number of vessels entered and cleared at Turkish ports in the year 1887-'88 was 174,338, of 27,581,927 tons. Of the 35,548 steamers, 13,010 were English, 7,448 Turkish, 4,264 Greek, 3,922 Austrian, 2,365 French, and 2,082 Russian. Of the sailing vessels, 130,044 were Turkish, 14,627 Greek, and 13,126 British.

The merchant navy, in 1889, numbered 84 steamers of 100 tons and upward, having an aggregate of 63,804 tons, and 791 sailing vessels, having an aggregate of 153,264 tons.

Railroads.—Since the summer of 1888 Turkey has been in direct railroad communication with western Europe. There are 904 miles of railroads in European Turkey, composing the trunk lines to Constantinople and Salonica and their branches, and including the eastern Roumelian and Bulgarian sections. In Asiatic Turkey 410 miles were in operation in 1889 and 292 miles were in process of construction between Ismid and Angora. The first section running from Ismid to Adabazar, 25 miles, was opened to traffic on June 2, 1890. The railroad from Scutari to Ismid, 58 miles, was transferred by the Government to the company that undertook to continue it to the capital of Anatolia before October, 1892.

Dispute with the Greek Patriarchate.—The Œcumenical Patriarch, Monsignor Dionysios, on July 23, 1890, on the question of the investiture of Bulgarian Bishops (see BULGARIA) addressed a memorandum to the Sultan denouncing the Bulgarian Exarch as a schismatic who seeks to obtain *berats* to which only Orthodox bishops are entitled, and praying that the new bishops should be expressly designated as schismatic and forbidden to wear the vestments of the Orthodox clergy. On Aug. 5, his demands not having been complied with, he resigned. Three Macedonians were appointed to the bishoprics, Theodosios to Uskub, Sinessios to Ochrida, and Juzma to Kosovo. A commission was appointed to consider the claim of the Patriarch for the restoration of the ancient rights and privileges of the Orthodox Church, but the question of the *berats* prevented an understanding being arrived at. The Patriarch, who was supported in his position by the Russian, Greek, and Servian governments, would not withdraw his resignation, and on Oct. 15, by order of the Œcumenical Synod, all churches were closed in European Turkey. The Porte agreed to make concessions in regard to schools, jurisdiction in matters of marriage and divorce, and of the testamentary disposal of property, and the other ancient privileges claimed, except the right to try priests in the ecclesiastical courts, but withdrew its promise when the patriarchate persisted in a demand that no new Bulgarian bishoprics should be created, although by the firman of 1870 the Bulgarians were promised a bishop wherever they formed a majority of the inhabitants. Monsignor Dionysios proposed a convocation of the autocephalous churches, but received indefinite replies from the patriarchs of Alexandria, Jerusalem, and Antioch and the heads of the Roumanian and Servian churches. The dispute with the Porte was finally settled by the acceptance of the promised concessions, and religious services were resumed in December in the churches in which they had been suspended, not all the archbishops having closed their churches in compliance with the decision of the synod.

The Cretan Question.—The troubles in Crete, which began as a faction fight between the two Christian parties, and through the intrigues of Greek annexationists and Mohammedan politicians aiming to regain their old ascendancy took the form of a rebellion against the government of the Turk, compelled the Sultan to intervene at last. Shakir Pasha who was sent to replace the Christian Governor-General, proclaimed military law and garrisoned the isl-

and with 20,000 Ottoman troops, and when the insurrection was thoroughly crushed the Sultan, in order to prevent the recurrence of the international dangers arising from the agitation for Cretan independence, issued a firman by which he curtailed the privileges of self-government that had failed to satisfy the Cretans and keep them quiet. The firman takes from the Cretans the free disposal of the revenue and makes them dependent on the Ottoman Government for the satisfaction of their requirements for the building of roads, the improvement of harbors, the founding of schools, and the payment of the gendarmerie. The latter was composed of natives of the island alone, but under the new Constitution it can be recruited in all parts of the empire. The Hellenic agitators protested in vain to the powers. The 2,000 exiles at Athens refused to return to Crete after a general amnesty had been proclaimed in March, from which 18 persons were excepted. Murders of gendarmes and of Mohammedans took place, but no organized rising was attempted. Many stories were circulated alleging barbarity on the part of the Turkish police and soldiery and outrages of the Mohammedan Cretans that went unpunished. All the Christian judges on the island resigned and refused to resume their functions. The courts-martial delivered 84 judgments up to March 1, of which 14 were based on purely political charges. The Porte promised to abolish the state of siege as soon as the refugees should return. In the elections for the Assembly in May the Christians largely refrained from voting. Martial law was abolished on April 29, and many of the exiles returned notwithstanding the efforts of the Panhellenic party to keep them in Athens. On July 9 Djavad Pasha was appointed Governor-General, and, amnesty having been granted to the convicted leaders and the military patrols withdrawn, acts of violence on both sides gradually ceased, and in the autumn the country settled down to normal conditions.

War with the Druses.—One of the periodical campaigns for the subjugation of the Druses of the Hauran, who have never been made to pay their taxes or furnish their quota of recruits for the army, was undertaken in the summer of 1890. The district is nominally a Turkish *Sanjak*, and gradually the military posts have been extended along the caravan route east of Lake Tiberias and the road from this toward Suweida, the nominal seat of government of the district. The Turks have also held possession of the garrisoned town of Bozrah, 20 miles distant. In May they began a military movement for the occupation of the Hauran mountains. The Druses were at first successful, driving the Turks out of Suweida. Later a larger Ottoman force was brought up, about 2,000 men with cannon, and after a bombardment the town was recaptured. Attempts to penetrate into the mountains were not successful, and in September, when about 400 had been killed on either side, a pence of the nature of an armed truce was declared, which left the Turkish Government for the present in a worse position than before, as it was obliged to maintain a larger force for the defense of the places held before the war began. The result of former operations has been a gradual encroachment of the Turks, who have some-

times retired, but afterward regained the lost ground, hemming the Druses more closely in their mountain valleys south of Damascus between the Jordan and the desert.

Armenian Troubles.—The trial of the Kurdish chieftain Moussa Bey, who had been the leading spirit in the systematic outrages committed on the Christians of Van, Bitlis, and Mush, was such a mockery of justice that Sir William White, the British ambassador, who wrote to his Government that there was a powerful clique at Constantinople ready to go any length to prevent him from being punished, obtained the unhesitating support of his diplomatic colleagues for his demand for a fresh trial, which the Sultan promised, despite the objections of the Minister of Justice, Djevdet Pasha, who was eventually dismissed from office. The effect of the acquittal in Armenia was to rekindle the revolutionary desire for the re-establishment of the ancient national independence of the Armenians, which was assiduously fomented by the Armenian committees in London, Paris, and other foreign cities. This revival of the national aspirations of the down-trodden race provoked the martial Kurds and Circassians to fresh acts of cruelty and oppression. On Feb. 26 Monsignor Achikian, the Armenian Patriarch, delivered to the Porte a report of a council of the Armenian archbishops and bishops on Kurdish outrages and the maladministration of the Ottoman authorities ending with an appeal to the Sultan to grant the complete restoration of the privileges of the Armenian Church and to execute the reforms provided for in the sixty-first section of the treaty of Berlin. The Sultan on the recommendation of a commission on Armenian affairs that met at Yildiz Kiosk, ordered the magistrates serving in Armenia to be replaced by others who possessed special knowledge of the conditions with which they had to deal. In the northern vilayets of Van, Erzerum, Bitlis, and Diarbekir, where the Armenian race is most numerous, being nearly equal to the Mussulmans in numbers, and where the revolutionary propaganda has taken root, the Christians have been forbidden to carry arms, while their Mussulman neighbors are armed and are beyond the control of the imperial authorities. Murder, outrage, robbery, and arson drove some to seek new settlements in Persia, but they were turned back at the frontier by the Turkish officials. One village petitioned in a body to be taken into the Orthodox Greek communion in order to enjoy the protection of the Russian Government.

The Gregorian Christians number about 2,500,000. Nominally they possess considerable rights of self-government. There is a National Assembly, consisting of 120 lay and 20 ecclesiastical members, sitting at Constantinople and Ephori, or subordinate councils in the provincial centers. Like other representative institutions introduced in the Orient, the system is a failure in practice. The National Assembly, which elects the patriarch, meets very seldom, and the local assemblies are deaf to the complaints of the poorer members of the community. In 1890 the National Assembly had a meeting to give its support to the demands of the Armenian community. The wealthy and influential Armenians had no sympathy with the ideas of national independence or

autonomy disseminated from London, for their people are the minority in every district, trampled upon by warlike races that the power of the Ottoman Government can not hold in check.

In June an anonymous informer wrote to the Civil Governor of Erzerum that the Armenians were preparing an insurrection, and had a store of arms and ammunition in their church and school, and sent a similar communication to the commander of the troops, who forwarded it to the imperial palace at Constantinople. The Governor paid no attention to the matter till he was ordered from Constantinople to make an investigation. The Armenians raised a public clamor when their church was searched by the police, who found no weapons there. The notables of the community sent a protest against the desecration, and two days after the occurrence a mass meeting was held in the churchyard for the purpose of signing a petition to the Sultan. The Mussulmans gathered to attack the Christians, who had closed their shops as a part of the demonstration, some willingly and others under the compulsion of their compatriots. A detachment of troops was sent to preserve order. The officer in command, after holding in check the Mussulman mob for a time, ordered the Christians to go to their homes, and when they refused the soldiers advanced to clear the churchyard. The Christians resisted, firing revolvers, and killing and wounding some of the soldiers, who drove them out finally with their bayonets. The collision was the occasion of a general onset of the armed Mohammedan populace, who massacred several hundred Christians, and plundered shops and houses. Riots followed in other places. The Valis of Erzerum and Van were dismissed in consequence of the disturbances. On July 27, during the regular Sunday service in the patriarchal Church of Koum Kapon, a young Armenian, advancing to the altar, read a proclamation recapitulating the persecutions to which the Christians in Armenia were subjected, and insisted on the Patriarch going at once to the palace with a petition to the Sultan. The Patriarch, who refused and tried to escape, was seized and driven on a carriage in the midst of a shouting mob toward Yildiz Kiosk. The procession was met by two battalions of troops and dispersed after a fight, in which 4 soldiers and 3 Armenians were killed, and many more received bayonet wounds. About 400 persons were arrested for being concerned in the riot, and the Armenian quarter was declared under martial law. On July 31 the Patriarch sent his resignation to the Sultan, who refused to accept it. On Aug. 12 Monsignor Achikian sent a communication to the Porte persisting in his resignation of functions that could not be discharged so long as the needs and desires of the Armenian people were neglected. On Aug. 19 Artin Djangulian was found guilty of having incited the riot at Koum Kapon, and was sentenced to death by the military tribunal. His sentence was commuted into imprisonment for life by the Sultan, who confirmed the sentence of fifteen years' imprisonment pronounced against three, and five years against five others. A special commission was appointed to inquire into Armenian grievances, of which Artin Pasha, Agob Pasha, and Vahan Effendi, the three most

eminent Armenians holding offices in the Government, were made members. Moussa Bey, who had been captured by the Turkish police after a long search, was exiled by order of the Sultan, who told the Patriarch and the British and Russian ambassadors, that reforms would be introduced to insure liberty of person and property to the loyal population of Armenia, but not until material and moral peace was restored. Monsignor Achikian was induced by a promise that his demands for the Armenian Church should be granted, and that the condition of the Christian population of Asia Minor should be improved to withdraw finally his resignation on Aug. 31, and a few days later the Porte sent back his memorandum reciting the demands that he made in the name of his coreligionists as inopportune, whereupon he again offered his resignation, which was accepted on the part of the Armenian National Assembly on Sept. 19. The investigating commission was dissolved and a new one appointed to consider Armenian reforms, as the first appointees endeavored to evade the responsibility. Concealed arms were discovered, bands of Armenians began to raid the Kurds from Russian territory, and many persons were arrested both in Armenia and in Constantinople for engaging in a revolutionary conspiracy to declare the province independent. Among them was a naturalized American citizen who was released on parole at the intercession of Mr. Hirsch. On Oct. 24 four were convicted of treason in Constantinople and condemned to death, and six others were sentenced to imprisonment for long terms. In the beginning of December the leading officials, lawyers, and merchants of the Armenian community in Constantinople signed an address of loyalty and devotion to the Sultan condemning the nationalist agitation as the work of misguided persons who have no authority or influence with their coreligionists.

TYPE-WRITERS. A type-writer is a machine in which impressions are made on paper through mechanism operated by keys for the purpose of producing legible matter as a substitute for manuscript. A more concise definition is, "a machine to do the work of the pen."

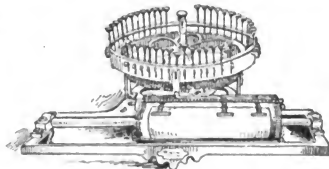
The Mill Machine.—The earliest suggestion for mechanism to do the work of handwriting appears to have been given by Henry Mill, of London, to whom a patent was granted Jan. 7, 1714. No description of the drawings was given, and the information is meager. A vague tradition is supplemented by a paper filed in the archives of the British Patent Office, bearing date as given above. The contents are as follow:

Anne, by the grace of God, etc., to all to whom these presents shall come, greeting: Whereas our trusty and well-beloved subject, Henry Mill, hath, by his humble petition, represented unto us, that he has, by his great study, pains, and expence, lately invented and brought to perfection "An Artificial Machine or Method for the Impressing or Transcribing of Letters Singly or Progressively one after another, as in Writing, whereby all Writings whatsoever may be Engrossed in Paper or Parchment so Neat and Exact as not to be distinguished from print; that the said Machine or Method may be of great Use in Settlements and Publick Records, the Impression being Deeper and more Lasting than any other Writing, and not to be Erased or Counterfeited without Manifest Discovery," etc.

Mill was a native of London, born about 1630. Although his machine received the royal approbation, it does not seem to have come into popular favor. He had a liberal education, and at an early age developed great skill in mechanics. While quite young he was chosen chief engineer of the New River Company, one of the oldest and largest corporations supplying London with water. He also designed the system of water supply for the town of Northampton. He was with the New River Company till his death, at the age of ninety years. The first instrument known to succeed Mill's anywhere was one in France, in 1784, which made embossed characters for the use of the blind.

The Bain and Wright Machine.—More than a century elapsed, and then the invention of Alexander Bain and Thomas Wright, of England, was, on Dec. 21, 1841, announced as an "Improvement in applying Electricity . . . to print Intelligence at Distant Places" (Brit. Pat. 92,049). It was designed simply for what is now called the "Printing Telegraph." All printing telegraphs are type-writing machines, and the Bain instrument has many of the devices and characteristics of the type-writer. But it was not a success, and never came into use. Other machines were announced at intervals, but not one of them seemed to be a practical working machine or to have any marketable value.

The Thurber Chirographer.—American inventors did not display any genius for type-writing machines, so far as the records show, before 1843. On Aug. 26, in that year, Charles Thurber, of Worcester, Mass., received a patent for a "Mechanical Chirographer" (U. S. Pat. 3,223). Two years afterward he took out another patent (U. S. Pat. 4,271). His claim was for "communicating the motions to the pen or pencil by means of



THE THURBER CHIROGRAPHER.

cams acting on frames, so that the vertical and horizontal strokes can be given by separate movements, and the oblique and curved strokes by the combined action of the two." A full-page specimen of the work done by the machine built under the second patent was filed in the patent office and a copy inserted and bound in the volume containing the commissioner's report for that year. The keys of the first machine were small steel rods, 4 inches long, with common types inserted in the lower ends and bearing buttons at the top, on which the corresponding characters were marked. The machine printed 45 letters and characters. In front of the wheel, or key frame, was a roller which carried the paper, revolving on a steel shaft two and a half feet long. At the back of the frame was a small

wooden ink wheel, which was thrown up against the faces of the types as they passed over it. The second machine was radically different in the construction of many of its parts from the first, but, while both showed great ingenuity, neither ever came into practical use.

The Fairbanks Machine.—The next was that of Fairbanks, in 1848. It consisted of several series or systems of vertical, converging rods, the rods of each system adapted to be pushed up vertically, like piston rods against a common impinging point. On the upper end of each rod was a type. The machine was originally designed for printing colors on cloth, but in its construction it belongs to the type-writing art, and is now properly so classed. It was impracticable, and was never used.

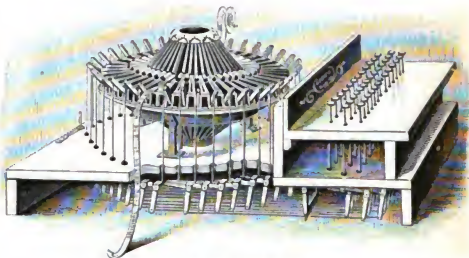
The Foucault Cécograph was patented in France by Pierre Foucault, a blind man of the Paris Institute for the Blind, Jan., 19, 1849. His machine printed embossed letters to be read by the blind. The letter was fixed in the end of a metallic rod, which could slide longitudinally into a groove. The rods were placed in a row of fan-like form, and each had the same letter at the lower as at the upper part. The mechanism was so arranged that all the letters converged to the same point, and at the stroke of a letter the paper was moved forward a given space for the formation of the next letter. The line being terminated, the paper displaced itself perpendicularly, was returned, and a new line begun. Letters, figures, and stops were among the characters, and manifold was accomplished. The machine was small, portable, simple in construction, and rapid in action. It proved a success. Several were used in the institutions for the blind in Europe. It was exhibited at the World's Fair in London in 1851.

The Eddy Machine, of 1850, was patented by Oliver T. Eddy, in November of that year. No model of the invention can be found, and no machine of the kind seems to have come before the public. His application and specification for the patent are on file in the Patent Office, No. 7,771, but, from the illustration, it was evidently too cumbersome to be of practical service.

The Jones Typographer.—On June 1, 1852, a patent was issued to John Jones for a machine for the alleged purpose of "copying manuscript." There is a model on file in the Patent Office, and an examination of the mechanism places it in the series of type-writer inventions. Like many other inventions, it seems to have perished in its infancy, as but a meagre scrap of history remains to tell that certain important principles were involved which possibly have been utilized at a later day.

The Beach Machine.—Alfred Ely Beach, of New York city, on June 24, 1856, took out a patent for a machine that was the first device of

any sort in the way of positive improvement. Mr. Beach was one of the proprietors of the "Scientific American." He produced a machine to "print raised letters for the blind." It contained the principles that were afterward pursued to success in the regular type-writers. All the printing was designed to be at one point, the center of a circle, and the machine was planned



THE BEACH TYPE-WRITER.

with bars converging like the spokes of a wheel. In order to make the raised letters, a pair of printing or embossing levers, answering to the letter key, were struck together, one coming up and the other falling, grasping a strip of paper between a die and matrix, and meeting at a common center. The paper was drawn from a reel by a ratchet wheel that fed the paper on each up-stroke of the printing levers. This machine was first exhibited in operation at the Crystal Palace Exhibition of the American Institute, in the autumn of 1856, where it took the highest prize, the gold medal, as one of the most novel exhibits of the occasion. It did elegant work, operated with great rapidity, and the alignment of the lettering was almost perfect. It was made in brass, and presented an ornamental appearance. It is still treasured in the office of the "Scientific American."

The Francis Machine.—A type-writer embracing the same principle as the Beach machine was made by Dr. Samuel W. Francis, of New York, in 1857, who was the first to complete a type-writer. His invention, as a whole, was in advance of everything known, and similar to those which first became generally acceptable. The principle of the piano-forte action was taken as a basis for experimenting, and that construction was modified for the new purpose. He arranged a series of hammers in a circle, each hammer with the face of a letter, and throwing them up, as piano hammers are thrown, they converged and struck a point at a common center. The apparatus complete was inclosed in a wooden case, and occupied less than two feet square of space. Francis's instrument had a much more complicated action than the type-writers of the present time. But then, as now, the depression of a given key caused the movement of a corresponding type lever on the end of which the steel type was cast, upward to the paper, where by its stroke the impress was given through an inked

ribbon. The ribbon, several feet long, was of silk, impregnated, passing under the paper. This ribbon was so adjusted as to move with each impression, and thus present a fresh inked spot for the next letter. There was a frame on the top of the printing apparatus to hold paper, and it traveled from side to side over the type circle. The common center was at a point in a circular platen, upheld by suitable supports in the sides of the machine, being removable when it was desired to insert new paper. The frame was propelled by the unwinding of a coiled spring in a drum, round which was a cord connected with the frame. Another spring on the opposite side of the machine was connected by a cord, and had a device for releasing the frame to move but one space at a time, as an impression was struck. There was an alarm bell attached to the frame, to sound four spaces from the end of the line, indicating to the operator if a word should be divided or completed. At the finish of a line, the frame was drawn back, rewinding the spring, and the paper was moved forward from the operator by another action. A blank key made the spaces between words. Two copies were printed at once by letting the inked ribbon run between a thick and a thin sheet of paper. There was a device to prevent several keys touched at once bringing up more than one hammer to the center. But one instrument was made under Francis's patent, and that printed clean and more rapidly than handwriting; but it seemed too bulky, was intricate and delicate in some of its parts, and could hardly stand practical use, nor could it be made at a cost to let it be sold to advantage. It is noteworthy from the fact that it contains the essential features of all subsequent devices of this kind, the chief of which is the "arranging a row of hammers in a circle, so as when put in motion, they will all strike the same place—to wit, the center of the circle."

The Hall Type-Writer.—Another worker in the field of invention was Thomas Hall, of New York city. He had been experimenting for several years and studying closely the principles involved in type-writing mechanism, and had succeeded in the invention of a sewing machine; but restricted finances during the period of the civil war prevented any rapid progress with his type-writer. At the close of the war he settled in New York. On June 18, 1867, a patent was granted, a company was formed, and the manufacture of machines begun. Several were made, and proved eminently satisfactory. One instrument, making large and small letters, with many miscellaneous characters, was sent to the Paris Exposition of that year. Another, about eighteen inches square and six inches high, was exhibited in Washington. Its capacity was 400 words a minute. The paper was placed on a table which glided into the bottom of the machine on a frame working from side to side by an original device, and spacing for letters according to their thickness, giving the work a closer appearance to letterpress printing than is ordinarily done by type-writers. On return of the table to begin a new line, the sheet was drawn forward by pressing a knob on the top of the machine, and clean paper was brought to the common center. The type faces were on the ends of little hammers ranged in a circle and driven to a common center by the

touching of the appropriate key. Each hammer was on the end of an individual bar, the other end of which had a counter-weight, adjusted to facilitate the general action of the impression and recoil. A cushioned ring was suspended in the type circle, through which all the letters fell, and by which an even impression was preserved. A blank key did the spacing. The printing was through an inked ribbon. An attachment prevented two letters falling in conflict at the common center. This machine was apparently a perfect success, and awakened a great interest in the minds of capitalists. Plans were laid for its development before the trade, when differences of opinion arose, and everything connected with the machine was abandoned. Mr. Hall developed, on a new and original plan, another machine, radically different from the first, a description of which is given in its chronological place.

The Pterotype was the invention of John Pratt, of Centre, Ala., and is one of the most original and meritorious pieces of mechanism in the type-writer field. He was a resident of London, England, during the civil war, and in 1867 exhibited his machine, explaining its construction and usefulness before the Society of Arts. He also read a paper concerning it, which was published in the "Journal" of that body. Mr. Pratt's claims were laid down as: 1. The bringing of a number of type, in arbitrary succession, to one point. 2. The making of legible impressions at that point. 3. The feeding or moving of the paper across said common point, so as to make the proper intervals between letters and words. 4. The bringing of the paper back to its starting point, and at the same time moving it in a direction at right angles with the lines, so as to make the necessary spacing of the letter. The pterotype was covered by United States Letters Patent, No. 81,000, issued Aug. 11, 1868, but after repeated failures to secure a proper "momentum" for the type-wheel, Mr. Pratt abandoned his plan as impracticable.

The Hall Type-Writer of 1881.—This is an original conception of Thomas Hall, of New York city, radically different from his former invention, as well as different from all others. It embodies a novel application to bring the characters to be printed to a common center. It carries both capital letters and lower-case, either alphabet being available. The printing apparatus moves over the paper the length of a line. Rubber characters are employed, and sets of any style or language are interchangeable by the shifting of a plate. There is no inking ribbon, impressions being made direct from the type. In the manipulation of the machine only one hand is ordinarily required. The finger or working mechanism is carried upon a light bar frame, and so delicately arranged that it can be set at any angle for working. The machine is built in two sizes, the "Standard" and "Legal." The "Standard" is 14 inches long, 7 inches wide, and 3 inches high, its weight is 4½ pounds, with 74 characters in a line. The "Legal" style is 17½ inches long, and 6½ inches wide, 3 inches high, and prints 111 characters to the line, being especially designed for document work. The mechanism is carried upon a light bar frame, hinged to the bottom of the box in front, and provided with pivoted bars at the back, the lower ends of which

fit into serrated catches attached to the bottom of the box, so that the frame can be set at any convenient angle for working. Two distinct motions are provided for—those affecting the paper, and those required for operating the type. The paper receives no lateral movement, that being provided for in the type mechanism. The paper can be fed equally well whether in sheets or in web form. The sheet is fed forward by turning a milled disk at the left of the instrument, and for the line space by a thumb piece operated by the left hand. The type are under the control of the right hand. The space for each letter is equal. The printing mechanism consists of an upper and a lower plate about three eighths of an inch apart. The lower one is rigid and rests on the front bar of the frame, while the upper one is hinged to a rod and held up from the bottom plate by levers fixed to a small shaft on the front of the upper plate. It is acted upon by a spiral spring. To the top of the upper plate is screwed a rectangular piece of ebonite three inches long by two and a quarter inches wide, in which are pierced 72 tapered holes, each hole corresponding to a type character. The printing characters are raised in relief on a thin elastic plate of vulcanized rubber about three inches square and stiffened around the edges by a light brass frame. A variety of the plates are manufactured so that any class of type may be employed and any language written by the simple substitution of one plate for another, occupying only a moment's time. The plates are attached to an articulated frame fitted with fixed points and constituting a double parallel motion. It is free to move in any direction with equal facility and in such a way as to bring the required letter or character immediately below the printing post in the center of the carriage. By the depression of the key a conical pointer depending from its lower extremity enters the opening bearing the required character, and by the same movement the carriage is depressed. The designated letter on the plate below having been carried to its place over the paper where the impression is to be made is driven through a small aperture, and the impression is completed. The ink is supplied by a pad lying between the two plates against whose surface the type plate is pressed by every action of the carriage.

The Sholes-and-Glidden Machine.—It was reserved for C. Latham Sholes, a printer, Samuel W. Soule, also a printer, and Carlos Glidden, to open the way to success. At the close of the civil war, Mr. Sholes was made Collector of Customs at Milwaukee. His interest in printing had never flagged, and in 1866-'67, with Soule, an old friend, he was engaged in making a machine for putting consecutive numbers on bank notes, or on the pages of blank books after they were bound. Soule had some reputation as an inventor, and the two were brought in contact with Glidden, who was developing a model of his own for agricultural purposes. Glidden was interested in their work and called their attention to the fact that, pursuing the principles there embodied, letters and words could be made instead of figures and numbers. Neither Sholes nor Soule had ever seen or heard of such a thing as a type-writer, and they paid little attention to Glidden's comment. But having seen an account in an

English journal of the "Pterotype," they began to realize the possibilities in store by the substitution of letters for figures in their apparatus. It became evident to the two printers that there was a fortune for him who first completed a practical and durable machine of that sort, and as Glidden had first called attention to the idea, he was taken into their confidence, mutual suggestions were interchanged, and months passed while the rough ideas were being molded. A working model was made, which proved in a measure satisfactory. Early in 1868, Soule and Glidden withdrew, and Sholes was left alone. His lack of capital threatened serious embarrassment, but James Densmore, of Meadville, Pa., another printer and editor, came to the rescue. He coined the word "type-writer." In June and July, 1868, two more patents connected with the machine were issued.

One improvement after another was developed, till twenty-five or thirty experimental instruments were made, each succeeding one a little better than the one preceding. They were sent out and put into the hands of interested writers, generally stenographers and practical persons who knew better than any one else what would be needed and satisfactory. James O. Clephane, of Washington, D. C., tried the instruments as no one else had tried them; he tested them, one after another, as fast as they could be made and sent to him, and condemned them, till the patience of Mr. Sholes was exhausted. But Densmore insisted that this was the very salvation of the enterprise. Sholes kept at work, and, profiting by the suggestions made by operators and critics, reached a point, in 1873, where he determined to make arrangements for manufacture and general sale.

In Feb., 1873, Mr. Densmore associated with himself G. W. N. Yost, under the firm name of Densmore and Yost. A contract was made with E. Remington and Sons, of Ilion, N. Y., for 1,000 machines certainly, and 24,000 more conditionally. The instrument had then become known as the Sholes-and-Glidden type-writer.

The first instrument was on sale by the middle of 1874, and by January, 1875, 400 had been disposed of. The type-writer steadily became popular. Special tools were constructed, the plant increased, and improvements added. In the spring of 1876, Yost, with three experts, went to Cincinnati to establish the business, and succeeded in selling over one hundred machines at retail before July 1. He then employed Charles Wyman, from the assembling department at the factory, to come to Cincinnati and keep the machines that had been sold in order and continue the sales. In December following fewer than twenty-five per cent. of the machines were in use, the expert being unable to keep them in working order, and the instruments were continually being returned for repairs. In 1876, the "Sholes" was shown at the Centennial Exposition, and its advertising matter and samples of work scattered therefrom to all parts of the world, creating surprises wherever known. During the two years of 1876-'77 about 3,000 had been sold. Up to that time its general appearance was much like a covered box with a set of keys on a projecting table in front. On lifting the cover, the paper carriage was disclosed; the

machine was then seen to consist of two parts—the body containing the keys, action, type-levers, and inking ribbon; and the carriage in which was the roller, around which the paper was placed. The roller was a rubber-faced cylindrical platen to receive the impression, round which the sheet of paper was conducted by rubber tapes and metal guides. The carriage was hinged on a supporting bar at the back, and upheld in front by a wheel running on a planed way. A spring connected with the carriage caused it to move forward. There was also a ratchet feeding device, admitting of but one space forward action at a time, with each impression struck. To examine the work, the carriage must be raised, and when a line was completed the return motion for the beginning of another line was given by pulling a cord connected with pedal action, which necessitated a special table with each machine. The alphabet consisted exclusively of capital letters. On the front of the rack was a scale and pointer for regulating the work and making adjustments. There were 44 characters on the key-board, but by combinations others were easily made. A sheet of paper 8 inches wide was used, although the dimensions of the instrument were about 16 inches each way on the table. The type fitted into the end of the bar, was of steel, and each letter occupied a space nearly equal to the forward movement of one tooth of the ratchet wheel, the spaces having the same distance by the action of the space bar extending across the front.

The Remington Machine.—In 1880 the firm of E. Remington & Sons assumed the charge of sales, and their name thus became fully identified with the sale as well as the man-



THE REMINGTON TYPE-WRITER.

ufacture. In August, 1882, a partnership was organized by William O. Wyckoff, Clarence W. Seamans, and Henry H. Benedict, all of New York, under the firm name of Wyckoff, Seamans, & Benedict, for the business management of the work in hand, and a steady advance in improvement was entered upon. It became evident in the spring of 1875 that a machine printing capitals alone would not grow rapidly in the popular esteem, and Byron A. Brooks, of New York, who had begun as early as 1867 to solve the problem of mechanical writing, devised a plan for using two alphabets, capitals and small letters, with one key-board. Mr. Brooks was a professor of mathematics, and noticing that the type-bar became at the moment of contact a tangent to the circumference of the printing platen, and that by moving the platen slightly

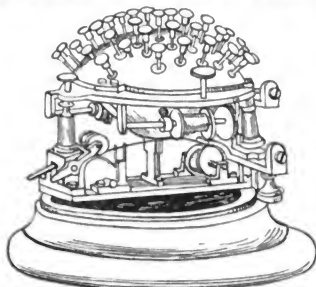
forward or back the tangency no longer existed but a new center was created, devised a double-headed type-bar containing both a capital and a lower-case letter. Letters patent were granted April 30, 1878. There are practically two centers of printing, and the platen is removed from one to the other at the will of the operator. The capitals are all set in one line and the small letters in another, no matter in what portion of the circle the type bar may be hung. Thus, without duplicating the keys or increasing the complication of parts, it is adapted to printing both styles of letters. A shift bar was so fitted that a spring gave precedence to the lower-case letters; but when a capital was wanted, a touch on the upper-case shift by a finger of the left hand, caused the requisite movement and the capital letter made its impress. The new machine was called the Remington No. 2, and the first one made was put in the Paris Exposition in 1878, where it received one of the few gold medals awarded to American inventors. Another improvement that distinguished the No. 2 from its predecessor was the enlargement of the letter distance, so that sixty impressions or letters were made on the line of 6½ inches instead of 70 inches as in the No. 1. Also, by a slight rearrangement of the keyboard, 39 keys were made to operate 80 characters, consisting of capitals and small letters, figures, punctuation marks, and a limited number of commercial signs. The dimensions of this machine were reduced to 15 inches square table surface, and 12 inches height. Its weight was reduced to 23 pounds, and the line to 6½ inches in length, giving 10 spaces to an inch.

The Remington No. 3 is an advance on No. 2, necessitated by legal and commercial requirements, was made, and the Remington No. 3 was introduced in February, 1886. It is distinguished chiefly by its wide paper carriage, holding a sheet fourteen inches across, and printing a twelve-inch line. The keys are increased to print, with shift, 84 characters. They include commercial signs, marks of reference, etc. The frame and parts are strengthened and modified. This wide-carriage type-writer is demanded in Europe more than in the United States, for there the law requires many documents to be on paper wider than ordinary; yet insurance agents, abstract makers, and many attorneys in this country have felt the need and welcome the style. The degrees of spacing are at the will of the operator.

Other forms of the Remington machine are made for special purposes, but present no variation in the principle.

The Hansen Type-Writer.—In the chronological order the "writing ball" of the Rev. H. R. M. J. Hansen, of Copenhagen, Denmark, appears to be the only foreign competitor that American type-writers have. The first patent awarded him in the United States bears date April 23, 1872 (125,952), and this was followed by others in 1872, 1874, and 1875, but none have yet been manufactured on this side of the Atlantic. It was exhibited at the Centennial in 1876, and won a gold medal. A few have been brought to this country by tourists. A hemispherical shell is mounted on the mouth of a conical shell, inverted, and from the surface of the ball protrude the ends of 54 pistons,

penetrating the interior, surrounded by springs, and directed toward the point of the cone, which is open an inch square. These pistons have each a cap for fingering, and on the lower end a type face. There are one alphabet, figures, points, and miscellaneous signs. These are necessarily



THE HANSEN MACHINE.

cut, each at its own angle on its rod, so that when pushed down it will print squarely and in line at the point of the cone. The pistons act swiftly, noiselessly, and easily, striking through an inked ribbon, held on reels on either side of the letter orifice. The "ball" is supported by arms from the base, and hinges on one side, so that it may be lifted. The paper is held in a frame resting on guides, and is propelled by a coiled spring connection. The framework underneath supports an "anvil" to receive the impression. The length of the printed line is 7 inches. The "ball" falls slightly under each impression and releases the letter-spacing action. These machines are in use in England and on the Continent. The top of the ball and all the keys may be covered by the two hands of the operator. A bell sounds four spaces from the end of a line, and a scale is mounted behind the machine to show the location of impressions. The apparatus stands 6 inches high, 7½ inches deep, and 11 inches wide, and the weight is about 8 pounds.

The Caligraph.—This machine is an outgrowth of the Remington. It was invented, perfected, and introduced to public use by Mr. George W. N. Yost, previously mentioned. Differences of opinion on the part of interested persons and patentees, together with financial embarrassments and difficulties connected with the manufacture of the Sholes and Glidden, determined him to found a rival enterprise. Seventy-five per cent. of the machines sold throughout the country had been returned for repairs, and interest in the success of the enterprise was reaching a low ebb, when, in the summer of 1879, Franz Wagner, a skilled German mechanic, instructed and directed by Mr. Yost, made the first model of the "Caligraph," and the first patent on it as an independent machine was granted March 18, 1884 (U. S. Pat., 295,469). Improvements were constantly made, a factory was established in New York city, and the effort culminated in the manufacture of a machine

accomplishing the same end as the Remington, but by varying methods. As a matter of fact, Yost, as a power in the Remington, fought himself as a power in the Caligraph. The Remington shops and the Caligraph shops, little dreaming that the same genius spurred them on, became rivals in putting out good work. The consequence was two good machines on the market. The Caligraph and the Remington are both "basket" machines, but a critical examination shows that the Caligraph is made with a lighter frame; it does not have the shifting bar for striking capital letters, but arranges a series of keys for capitals on either side of the main board, so that each letter and each character has its own independent key. The levers are hinged on a principle that brings the key-board nearer to the middle of the instrument, and are covered in such a way as to afford a little shelf for either copy or making notes. The space bar, instead of being in front of the key-board, is on either side, and instead of being struck by the finger, is acted upon by the touch of the outer edge of either hand. The Caligraph is made in two sizes. In No. 1 four faces of type are offered, with 48 characters. The machine weighs about 15 pounds, occupies 15 by 13 inches of table space, and is 10 inches high. No. 2 has 72 characters, weighs about 21 pounds, occupies 14 by 18 inches of table surface, and is 12 inches high. It is so arranged that a sheet of 11½ inches can be typed with a line of 9½ inches. The capital-letter keys are black, and at the sides of the board. The space between the operator and the keys is occupied by the extension of the different levers to the hinging bar. The cylinder platen has a polygonal surface, the impressions being received on the faces. The carriage is adjustable as in the Remington, but actuated by a torsion spring. The spacing for impressions is regulated by a double-sliding ratchet at the back of the paper carriage. In April, 1883, the manufacture of the Caligraph was removed to Corry, Pa., and afterward it was transplanted to Hartford, Conn. At the New Orleans Exposition, in 1885, the Caligraph received the medal.

The Brooks Type-Writer.—Byron A. Brooks, of New York, after patenting the upper and

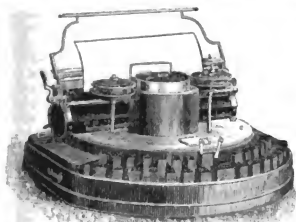


THE BROOKS TYPE-WRITER.

lower case improvement on the Remington typewriter in 1878, which assured the success of the machine, devoted much study and experiment to

the problem of producing a perfect type-writer. The features desired, in addition to ease of operation, durability, and manifold ability, are automatic variable space for each letter as printed, according to its width, the ability to read each word and letter as printed as in hand-writing, and increased speed. The result is the Brooks type-writer, on which patents were issued March 6, 1883, and Aug. 4, 1885. This is a type-bar machine of the same class as the Remington, but is so constructed that the printing is done on top of the platen instead of underneath, and is always visible. It has 46 keys, printing 92 characters by means of a shift key for capitals. Among its more marked features are 12 keys printing combinations of two or more letters or words at a single stroke, and a space key which may be operated simultaneously with the last letter of any word. These elements constitute the machine a practical stenograph, upon which an expert operator can take down dictation in full, and by means of Mr. Brooks's system of abbreviated long hand can do the work of the stenographer in characters that can be read by any person.

The Hammond Type-Writer.—This instrument is an original and most ingenious conception, differing in construction from all others in the market. It was invented by James B. Hammond, of New York city, as the result of some



THE HAMMOND TYPE-WRITER.

sixteen years of study. Mr. Hammond began to work before he was aware that any invention for mechanical writing had ever occupied the thoughts of others. In studying out the problem before him, he aimed at a construction that would admit of speed while producing a perfect impression and alignment, freedom in action and lightness in touch, with such a position of the paper to be written upon that an examination could be readily had. The plan originally conceived was pursued, with only changes of detail, to the end. Speaking generally, this consisted in placing the characters to be printed on a type wheel, any letter of which should be immediately impelled by any of a set of keys to its proper point and printed. The plan, as well as the means, proved novel, for while during forty years the best inventive skill had been devoted to movements of telegraphic type wheels (a kind of type-writer), no one had adopted the simple, but at the same time more difficult, method of impelling the type wheel directly from the keyboard. At first view the Hammond type-writer

has the appearance of a mammoth inkstand. It is semicircular on the front, and its table space is a little more than half the area of a circle $14\frac{1}{2}$ inches diameter. The distance from front to back is 12 inches, and its gross weight in wooden case is about $16\frac{1}{2}$ pounds. There is on the convex front a series of 30 keys in 2 banks. Each key carries ordinarily 3 letters or characters, arranged as capitals, lower-case, and figures, fractions, etc. The ordinary stroke produces a lower-case letter. For a capital, a "shift" marked "caps" is touched by either hand, and the pressure on any key produces its appropriate capital, while a similar pressure on the "figure shift" produces the required figure, fraction, or commercial sign. The keys are fitted upon knife-shaped levers, which converge in the "Monitor turret" in the middle of the instrument. The turret is open at the top and on the side where the type is presented to the paper, and its interior can be readily examined. Standing upright in its center is a shaft carrying two sections of a type wheel, facing respectively to the right and left. These sections are flanged, and on their surface in bold relief are the characters to be used, each section carrying its own quota. By pressure on a spring catch, the type wheel can be removed and a different style substituted. On either side of the turret are the spools carrying the inking ribbon, which can be fed from right to left or left to right at the will of the operator. Hidden from view by the cover on the turret are a series of pins acted upon by the key levers, so that when a key is depressed its appropriate pin causes the type wheel to stop in the proper position to receive the impression of the hammer. When the selected type is in position for printing, the hammer is released, which, acted upon by a spring, gives a uniform blow on every type, thus giving a uniform impression. The paper is fed in from above, and passing down into a cylinder of nearly horse-shoe form in its sectional view, is locked in position between two rubber rollers. By the turning of a thumbscrew it can be fed down into the cylinder until the place for the printing is reached. The capacity of the cylinder is such that a web of 50 feet in length can be stored. While the columnar scale fitted to the front of the cylinder indicates 105 spaces, yet the Hammond is not restricted to any particular width of page, but is so constructed that paper of any width can be readily used.

The alignment is extremely accurate. The type segments are cut specially, and all the characters print in equal spaces. In the adjustment of the paper two sheets are used—the one to be printed, and a second, preferably a thick sheet, to be used as a "backer." As the carriage will hold any width of paper, it is evident that any desired margin may be left on either side of the writing. There is a shield of thin metal in front of the sheet of paper, and to insert a word or character accidentally omitted, if the omission is discovered before the paper is fed up for the next line, it is only necessary to move the carriage until the place where the omission has occurred is directly below a notch in the shield. The omitted character is then printed in perfect alignment with the others.

At the American Institute Fair of 1874 a

medal of superiority was awarded, in 1885 a special medal, and at the New Orleans Exposition a gold medal. For the purpose of manifolding, the blow given by the hammer can be increased by the adjustment of a thumbscrew.

The Crandall Type-Writer.—This is the invention of Lucien S. Crandall, of Syracuse, N. Y., and is radically unlike any other. His first patent was granted Dec. 20, 1881 (U. S. Pat. 251,338), although the inventor's researches and experiments date back as far as 1871. The instru-



THE CRANDALL TYPE-WRITER.

ment is small, light, and handsome; it may be operated on one's lap, or on any convenient desk or table, with ease. The weight is 15 pounds, and it occupies about a cubic foot of space. The base is of cast iron, and the principal working parts of steel and brass. Twenty-eight keys, arranged in 2 banks, acting upon 84 characters, are employed. Their levers converge to the back of the machine. The characters are all on a single solid piece of metal called a "type sleeve," instead of on separate type bars, so that no collision is possible. The sleeve moves up and down, and turns about, and the letters reach a common printing point as their respective keys are touched. No letter has to travel more than three quarters of an inch to make its impression. The sleeve is provided with a series of holes corresponding in number and distance apart with the letters and other characters; by their use the "sleeve" is adjusted at each impression to within the thousandth part of an inch, thus insuring absolute alignment and adjustment of the line. The paper is fed in over a cylinder, and during the operation of printing the entire work is in full view. By the instantaneous shifting of one sleeve for another any desired style of alphabet or language can be used. On either side of the sleeve are the ribbon spools, which work automatically, and can also be wound either way without touching the ribbon. But one style of the machine is manufactured, although any number of faces of type are employed. It was placed on the market in 1885. In 1887 the machine was remodeled, and while the principal features were retained, several important improvements were added, embodied in patents No. 251,338, No. 408,150, No. 408,289. The latter machine is slightly larger than the original, occupying 13 by 14 inches table surface, with a height of 8½ inches, and an increase in the weight of 5 pounds. Variable spacing is

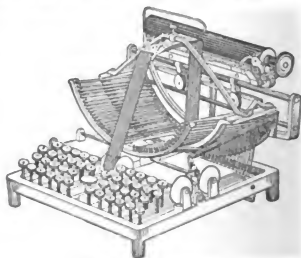
dispensed with in order to produce perfect tabular work. A cam movement is substituted for the former slot movement. A new ribbon movement is provided dispensing with the former projecting shield. The type in the sleeve pushes the ribbon to the point of impact, the ribbon returning with the sleeve, and leaving the writing at all times in full view.

Machines for the Blind.—Several machines have been invented for the use of the blind, among which is one by Daniel A. Johnston, which enables a blind person to impress characters in rows and lines so as to be read by the sense of touch; there is also Foucault's, previously mentioned, but nearly every style has been successfully used. The blind learn to use the type-writer with facility. They learn the position of the letter-board just as they do that of the piano key-board.

Other Machines.—A large number of small machines, and some that were extremely low-priced, have appeared at intervals. Among the more interesting may be named:

The Prouty Typograph, the invention of E. Prouty, of Chicago, which was first put on sale in 1885. The base is of cast iron. The bar from side to side at the back supports the printing carriage, to which is attached a device working through a series of teeth as the carriage is depressed, and drawing it to successive spaces. The carriage has a groove on its upper side, and in the groove a metal bow, having on its upper and lower sides electrotyped characters for printing. This bow at one end is attached to a slide working in the groove, and at the other has a finger piece. In the bottom of the groove is the ink-pad. The paper is held over a rubber-covered cylinder platen, the bottom of the printing carriage being perforated at its line of crossing to allow the passage of a letter on the under side of the type bar. The bow is turned as the signs on either side are needed. The weight is about 10 pounds.

The Prouty Type-Writer.—This was the joint invention of E. Prouty, of Chicago, and his wife. The idea was suggested to her by certain braces on the bridges over Chicago river.



THE PROUTY TYPE-WRITER.

The machine rests upon a metal frame consisting of a strong, light casting. The key levers are of steel, and are hung so nearly upon the center that they are balanced by the weight of

the type bar. The type bars and the key levers are connected by a strong wire link. The keyboard is arranged with reference to the rapid action of the fingers, and the spacer is placed in the middle of the key-board, nearest to the forefinger. The type bars, when not in action, lie horizontally and form a semicircle. They are pivoted to a flat steel ear and ground to a close fit. The ears are milled into a metal frame, and held in place by a screw, easily reached, thus securing facility of adjustment in setting the alignment. The type are of steel and have a milled stem, which is driven into a close-fitting socket in the bar. The tape hangs perpendicularly across the roll, not, as on other machines, parallel with the roll, and, as the tape is narrow, only the last letter is covered while writing. The entire writing can be exposed to view by touching a spring that withdraws the tape from the roll. As the tape runs at a right angle with the roll, the sheet is never soiled by the type stroke. The carriage is upright, and it is supported by wheels rolling freely on a steel rod, and is held in position by its own weight.

The Young Type-Writer.—In December, 1883, Josiah L. Young, of New York city, took out letters-patent on a small machine, which was put on the market a few months later. It is on a wooden base, is about 12 inches long, 6 inches wide, 5½ inches high, and weighs 4 pounds. The printing apparatus is in a carriage sustaining several disks, the lower of which rotates, and around its edge are the characters electrotyped from printers' type. On the upper disk is an index card. A handle connects with a post running down to the type disk, which revolves. The edge of the upper disk is raised and notched opposite the several characters, and the printing is accomplished by putting the handle in one of the notches and pressing down. The entire carriage falls, being hinged on the front horizontal bar, and held up by a spring, which returns it from each impression. An automatic ratchet action moves the carriage along over another space. The paper is put on a roller, and held by a clip of metal, moving forward a line when a turn is made on the button at the left end. The ink is supplied by felt rollers which are held against the line of type on the under disk.

The Sun Type-Writer is the joint invention of Lee S. Burridge and Newman R. Marshman, both of New York city. There were two patents, both granted on April 7, 1885. The machine is built on the principle of the stylus or single key, to which all the type are attached. The apparatus is on a wooden base, weighing altogether 4½ pounds. It is 12 inches long, 8 inches wide, and 3½ inches high, and holds paper 8½ inches in width. The impressions are made direct from the stylus. The fingers are placed upon the handle of the slide, moved till the index point covers the requisite letter, and then pressed upon. By the return of the spring action, which follows the movement of the stylus, the letter spacing is given. The paper is inserted behind a kid-covered roller, and held against it by a metal clip in front and a wire above. Ink is supplied from several small felt rollers held at the perforations under the type slide. But one alphabet is used, and one style of type.

The World Type-Writer.—The patent for this was issued Oct. 12, 1886, to John Becker, of Boston, Mass. The base is of wood, 12 inches long, 6 inches wide, and supports a delicate



THE WORLD TYPE-WRITER.

complication of metal, in skeleton form, standing 3 inches high. There are two disks or segments, one in front containing the index letters, the other in the rear. The type is cast in rubber, and movable by an index finger playing over a lettered board. The paper is fed in from the front, over a rubber cylinder, and held in place by a comb spring. The impression is given by placing the index finger over its appropriate character, then with the first finger of the left hand gently pressing on the upper horizontal bar, which extends across the instrument. The writing, as fast as made, is in open view. Spacing is done by the pressure of the second finger of the left hand on the spacing bar. A milled head adjusts the paper and the spacing between the lines. At the moment of impact, a locking apparatus binds the letter so that the alignment is accurate. The inking is done by two pads, one on either side of the point of impact, and every downward movement renews the supply. A sheet of paper to the width of 9½ inches, and of any length, can be used. The instrument is fitted with adjustable type plates, thus affording any style or language.

The Herrington or Pocket Type-Writer.—This is an extremely small instrument, weighing but half a pound. The 46 characters are held in a wheel, and paper of the ordinary size is used. Its great merit is that it can be so adjusted as to be used in any part of the pages of a bound book.

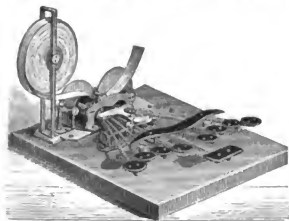
Type-Writer Paper.—Type-writing machines ordinarily carry paper the width of half-letter, or about 8½ inches. The Hammond takes any width. Half-note sheets are preferably turned so as to receive the lines the long way of the sheet, and printed headings are set to correspond. Where many copies of a letter are to be taken, a stiff, hard paper is required, and this kind also copies best in books. Ruled paper is not desirable, for the machine makes its own line, and the spacing between the lines seldom if ever corresponds with the ruled spacing.

Type-Writer Inks, have a glycerin body, and usually are dyed with anilines. Purple is the brightest and most penetrating hue, and is the most frequently used. The colors fade according to the exposure to light. An impression may fade in an hour or two if exposed to a bright sunlight, while in the dark it may endure for years. Ribbons of all colors are prepared, the "indelible copyable" having the preference.

Manifolding.—By the use of carbon paper, or manifold sheets, several copies can be taken at one working. Care must be used in arranging the sheets, else the mislaid sheet, as well as its

immediate neighbors, will be spoiled. Inasmuch as the impact of the type hammer makes its impress through the ribbon on the "ribbon sheet," it is to be observed that in all cases the carbonized side of the carbon paper is to be so laid that its impress will be given as if it were acting in place of the ribbon, consequently, in laying the folds the alternate sheets must in all cases be laid with the carbon side up. Care must be taken to have them evenly adjusted, lest the edges become blurred or soiled. A book of alternate white and colored leaves is made, and put into the type-writer as if a single sheet. For special purposes thin oiled paper is employed for duplicates, with double carbon paper, setting off on both sides, the work being readable through the oiled sheets. The ribbon is removed to save its interference with the sharper impressions. From twenty to thirty copies have been secured by this procedure. Although black is the color ordinarily used, the set-off sheets are readily colored with aniline dyes.

The Stenograph or Shorthand Machine.—The stenograph is the invention of M. M. Bartholomew, who was court stenographer at Belleville, Ill., near St. Louis, Mo., and secured under letters issued May 20, 1879, followed by several others as improvements were suggested. It has achieved marked success. It is a small machine, consisting of 5 writing keys, each carrying a marker. There is a spacing key, a paper guide, an inked ribbon, with reels for holding it, a device for moving the paper forward, and a reel for holding the paper. Four of the writing keys are V-shaped, and one is straight. All the letters can be made either with the right hand or the left. The 4 finger pieces on the left of the keyboard are duplicates of those on the right, and



THE STENOGRAPH.

make the same marks on the paper. Those on the left are operated by the fingers of the left hand, and those on the right by the fingers of the right hand. The straight key is operated by either thumb. The spacing key moves the paper without making any mark on it. The possibilities of mechanical writing were made the subject of investigation by Mr. Bartholomew as early as 1873. Sentences were analyzed, the average number of letters to the word essential to legibility estimated, and he endeavored to ascertain the number of distinct movements of the fingers of expert telegraphers and musicians. The result of his labor was a machine so made that the complete alphabet is produced with either hand and the hands used alternately in writing, as the

feet are in walking. The problem was thus solved. The idea of V-shaped keys soon presented itself, leaving no doubt as to the feasibility of the undertaking. His work proceeded slowly but early in 1879 a machine was in writing order. The first person to put it into practical use was Henry Thwing, of Belleville, Ill., who, in September, 1879, began work as a stenographer for the St. Louis branch of Fairbanks & Co. In the autumn of 1881 the inventor began using it in his work as court stenographer, but no extended effort was made to introduce it until the autumn of 1883, when a company was formed in St. Louis called the United States Stenograph Company. At this time about 80 instruments had been sold, chiefly through the efforts of the inventor, while still continuing his regular work. The spelling employed differs from the common spelling chiefly in the omission of the silent letters and unnecessary vowels, with a strong leaning toward phonetics. Owing to the mechanical uniformity of the characters produced, the work performed by the use of the machine is more accurate than pen and pencil shorthand. There being but one way of writing a character or representing a sound, it is much more easily learned than ordinary shorthand. It can also be used without looking at it, enabling the operator to look at the person speaking while writing what he says, and to keep his eyes on a book or paper while copying extracts from it.

The Columbia Type-Writer.—This is the invention of Charles Spiro, of New York city, first patented July 28, 1885. Mr. Spiro was a watch and chronometer maker, and had won reputation as an inventor of watch machinery. In his type-writing mechanism he sought a perfect alignment and to have the words printed in view. The base of the instrument is of metal. Two sizes are made. The No. 1 complete weighs about 3 pounds, is 9 inches long, 2½ inches wide, and 6 inches high, printing only capital letters. No. 2 weighs with its case 4½ pounds, and prints both capitals and lower-case. There are 2 disks, 1 vertical and revolving, the other horizontal and stationary. The vertical has printer's type driven into its periphery, and moves over a rubber-covered cylinder platen. On the left of the instrument is a projecting frame and a milled groove in which runs the paper carriage. From the back of the frame, between two standards, a round steel arm projects to the right and over the center of the machine about 6 inches. This main arm is fitted with a beveled toothed locking wheel, back of which is a space ring containing as many different depressions as there are widths of letters. It is so placed that each letter is opposite the proper depression on the locking wheel, and when printed takes up the space that its thickness requires. This feature belongs to no other type-writing machine heretofore known, and entirely eliminates the peculiar appearance recognized as a characteristic of type-writing in general. The alignment is perfect, and the appearance of a printed page is as if done in a printing-office. The operator turns the rubber handle on the vertical disk, until the index finger on the dial wheel points to the required letter, presses down, and the letter is made. The inking apparatus consists of a round pad, revolving on a shaft fitted to the inner arm.

The Columbia Music Type-Writer.—This also is the invention of Charles Spiro, and was patented Dec. 1, 1885. The music written by this instrument is the exact equal of a printed sheet, and can be adapted, by a special device, to print in the words of a song by the use of an additional type wheel. The mechanism is small and delicate. It is $4\frac{1}{4}$ inches in length, 2 inches in width, and $2\frac{1}{4}$ inches in height, and weighs $\frac{1}{4}$ a pound. There is a disk, a handle, and a base. That is apparently all. The disk contains on its periphery the requisite characters, and a dial on the inner face contains the representation of the character that is produced when the disk is depressed opposite the index. The disks are 3, 1 containing the notes, 1 for inserting accidentals, and 1 for signatures and barring.

The People's Type-Writer.—This was invented by Byron A. Brooks, previously mentioned. It employs a fixed upright type wheel, with two rows of type, and a shift key. The platen carrying the paper is in a vibrating frame, and the impression is made by pressing the platen against the type wheel. The letter or character desired is indicated by an oscillating arm, provided with a gear at one end and a finger piece at the other lying over a curved letter plate. The platen is vibrated by a finger key under the control of the left hand, which also operates the space key and shift key. An inked ribbon incloses the cylinder, or a pad may be used, and the writing is always in sight. There is a "combination ribbon" of red and black, so arranged that all capital letters can be printed in red, and all small letters in black. The type on the cylinder are copper faced. It is the only small machine that uses a ribbon.

The Yost.—A basket machine which chronologically follows the Caligraph. It is much lighter than the Remington, weighing but 16 pounds, with a base of 11 by 13 inches, and a height of 9 inches. It is the product of G. W. N. Yost, so long identified with the Remington and the Caligraph. The distinguishing features in the new machine are (1) the absence of the inked ribbon—the printing being done directly from the type; (2) a double alphabet—capitals and lower case—an outgrowth of the idea embodied in the Caligraph, and occupying much less space; (3) there are on the key-board 78 characters, on 2 banks of keys; the keys are composition, with inlaid letters, etc., smooth surface, and slightly concave, the lower-case being black letters on a white base, and the capitals a white letter on a black base; (4) the center guide is an original feature in the machine, and gives an absolute and perfect alignment. Each type bar, as it approaches the paper for the impression, is received by the center guide and firmly directed to its proper adjustment. There is no perceptible friction, and it is impossible for the type faces to strike against the guide or against each other, the beveling preventing. The "pointer" is simplified to the last degree, and dispenses with the necessity for mental reckoning. The essential difference in the construction of the Yost over its predecessors is that its type bars and connections are made loose and not rigid, so that wear makes practically no difference in the alignment, which is controlled entirely by, and dependent upon, the common center guide.

The National Type-Writer.—This was invented by H. H. Unz, of Philadelphia. It is classed among the "basket" machines, is 9 by 12 inches on the table, and $7\frac{1}{4}$ inches in height. The key-board is on a curved line, the middle of the curve being nearest the operator. There are 20 keys, each corresponding type hammer being triple headed, or containing three characters. The keys are of black composition, inlaid with white characters, and arranged in banks, formed of short circular segments. The carriage is not hinged, and is of light movement, sliding back and forth without using any "release" key. Paper of any width may be used and fed in without raising the carriage. An automatic pointer enables the operator to "set" the instrument at any given point without mental measuring or reckoning. The ribbon spools are removable almost instantly, permitting different colored inks on the same sheet of paper. There are two scales, the graduations running in the same direction. The "dip" of the keys is exactly alike, and the touch can be varied by the "finger-key tension screw."

The Smith Premier.—The product of Alexander Brown, of Syracuse, N. Y. It has no shifting key, but a double bank of letter keys, as in the Caligraph. In all, there are 76 keys, in two sets—the capitals above and the lower case below, but laid in the same order, so that only one set of keys has to be learned. The shape of the key-board is rectangular, and the keys are in straight rows in all directions. The lower-case keys are white; the upper ones, with the figures and the punctuation, etc., marks, are black. There are no wooden levers or "shift" keys of any kind. The ribbon is fed diagonally the length of the line. When the carriage is drawn back to begin another line, the ribbon is drawn lengthwise about the width of the type; consequently the entire surface is used. A peculiar "rocking-shaft" mechanism transmits the power from the key to the type bars in such a way that the leverage is the same for every key in the board. The type-bars are mounted upon hardened steel conical bearings, and are all $1\frac{1}{2}$ inch in length, so that a perfect alignment is maintained. Another new feature is the locking mechanism at the end of a line, so that when the line is finished all the keys are locked, and if the operator has omitted to notice the bell he is prevented from striking several letters one upon the other and ruining an otherwise perfect page. The line-spacing mechanism is greatly simplified. In the bottom of the basket is a circular brush, which cleans all the type simultaneously.

The Barlock Type-Writer is the invention of Charles Spiro. It is on the inverted semi-basket principle. The type bars strike downward, the blow being given on a cylinder, over which, at the moment of impact, an inked ribbon is interposed, then retreating immediately, leaving the whole line in full view. The key-board has a double bank giving a separate key for each character. The machine is made in two sizes, foolscap and brief. The Barlock derives its name from a small half-circle of conical phosphor-bronze pins immediately guarding the place where the types strike the paper. As each type bar descends to print, it must pass between two of the pins, where it is held firmly at the moment

of printing, thus securing perfect alignment. A novel feature is a rubber banding fitted to the feeding bar, so that no matter how frequently the paper may be carried back and forth the alignment is not disturbed.

The Anderson Reporting Machine.—This machine for reporting in printed shorthand is the invention of George Kerr Anderson, of Memphis, Tenn., patented in 1885. The machine differs from the stenograph in using a broad strip of paper, and in printing letters instead of marks. There are 13 keys, 5 of which are struck by the thumb and fingers of the hand on either side, 2 by the outer portion of the palms of the hands, and the dot by a slight movement of either thumb. As the system is based on the system of phonography, the aim is to write only the consonants of a word, and to indicate the class of the accented vowels. To form the other letters of the alphabet the small letters k, m, t, and h, are combined arbitrarily, thus: h t m (read from right to left) equals B; t m equals D; h t m k equals Sh; h t equals Th, etc. The figures also enter into the combination; the dot represents a, an, and, or I, according to context. In all there are 125 contractions and abbreviations in the system which must be committed to memory. Each stroke of the fingers represents a word, when, by an automatic movement, the sheet of paper is moved forward, and the line presented for the succeeding word.

The Crown Type-Writer, the invention of Byron A. Brooks. The distinctive feature of the Crown is a type wheel held in a vibrating frame, with a letter-plate and finger piece attached to a rack which meshes into a pinion on the type-wheel shaft, and rotates it to bring the proper character into position. The frame is then depressed by a lever worked by the other hand, the wheel striking the paper on top of a platen. It inks with a pad, and the writing is always in sight.

The Morris Type-Writer, the invention of Robert Morris, of Kansas. A swinging and reciprocating platen carriage carries the type, which are made of India-rubber. A guide pin is used to convey the type, which enters a counter-sunk hole in the platen. There are as many holes as letters and characters. A peculiarly shaped finger points out and guides the letters required. Underneath the type is an inking pad. Forty-five characters are used, and different and interchangeable styles are provided for use on the same machine.

The Victor Type-Writer weighs about 54 pounds, occupies a space of 8 by 12 inches, and is especially adapted for use on the knees while riding in cars, etc. The letters and characters

are arranged on the arc in front. A pointer indicates the character desired, the movement of the pointer turns a vertical printing wheel at the base of the pointer, and the impression is given by pressing a lever with one of the fingers of the left hand. The inking is by a pad.

The Capital Type-Writer, was invented by C. T. Moore, of Washington, D. C., who was the first to raise the unit from a single letter or logotype to a complete line of justified matter in printing, and his invention forms the basis for the construction of several type-setting machines. The Capital prints from a type wheel revolving in one direction, the striking of a key co-operating to bring the corresponding character to the printing point for imprinting it, the touch of the next representative key printing the letter previously set, and designating the character corresponding to such key. This mode of operation has for its primary object an increase of speed, since it allows the type carrier to move from the letter printed to the character designated while the hand of the operator is passing to the next succeeding key. Incident to this mode of operating there are minor advantages, among which is clearness of impression and the correction of errors incident to striking of a key not intended if the error is discovered before the next key of the series has been depressed. As the letter represented by the key erroneously struck has only been brought to the printing point by the act of depressing the key, the machine being provided with a button resembling an organ stop, which, with connecting mechanism, is adapted to suspend the action of the press and the movement of the paper carriage while the operator depresses the right key, the action of which causes the type carriers to remove the letter erroneously brought into position and to bring the correct character to the printing point. The advantages of this machine are its use of printer's type and spacing each character according to its width, printing direct from the face of the type, which are inked with printer's ink properly distributed thereon by composition rollers (such as are used in printing offices). If a wheel containing type-writer characters requiring uniform spacing should be substituted for the printer's type carrier, the spacing would adjust itself to such characters, so that the work would resemble ordinary type writing of the best quality. The work of this machine is constantly in sight of the operator, each letter being before the eye as soon as printed. Its weight is about 20 pounds. The construction is covered by an elaborate patent containing 103 claims, issued Jan. 21, 1890.

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UNITED STATES. The Administration and the Judiciary.—On April 8 a congressional commission began its inquiry into the methods of landing emigrants in New York. On April 18 the New York State Emigration Commissioners surrendered their functions to the Government Commission. A temporary government was granted on April 21 to Oklahoma, and on the 23d the Oklahoma bill passed the Senate.

The Pan-Electric suit was decided by the Supreme Court in favor of ex-Attorney-General Garland on April 21. On the 25th the congressional investigation of the Clayton-Breckenridge election contest in Arkansas was begun at Little Rock. The murder of the United States marshal in Florida, which was discussed earnestly in both houses of Congress, impelled the President, on April 27, to issue a proclamation that Federal

officers must not be interfered with in the discharge of their duties. On April 28 the United States Supreme Court declared the Iowa law for the seizure of liquor in original packages to be contrary to the constitutional provision for freedom of commerce between the States. The dressed-beef law of Minnesota was declared unconstitutional on May 19. Secretary Tracy confirmed on that date the suspension of Commander McCalla from the navy for three years. On May 28 a national convention of State railroad commissioners met in Washington. The bill to admit Idaho was signed by the President on July 3, the Wyoming bill on July 10.

A board of officers of the army to reorganize the Signal Service met in Washington on Nov. 11, the day on which the annual report of the Chief of the Signal Service Bureau was published. A conference of officials of the Navy

appointing Judge Henry B. Brown, of Michigan, whose name he submitted to the Senate on Dec. 23. George R. Davis was selected as Director-General of the World's Fair on Sept. 19.

Henry Billings Brown, the successor to Justice Miller, was born in Lee, Mass., March 2, 1836. He was graduated at Yale in 1856, studied law, went to Detroit, Mich., became a conspicuous member of the bar, and after a while was appointed district attorney. In 1868 he became circuit judge of Wayne County. This office he held until he was appointed judge of the United States Court for the eastern district of the Sixth Circuit by President Grant on March 13, 1875. At the district court in Detroit he had to adjudicate on a great number of admiralty cases, and he has come to be recognized as one of the highest authorities in this branch of the law.

Foreign Relations.—The tripartite treaty between the United States, Germany, and Great Britain respecting Samoa was ratified by the Senate on Feb. 4. On Feb. 12 the House of Representatives passed a resolution to congratulate the new republic of Brazil. The new treaty of extradition with England was ratified on Feb. 18. The lease of the Russian seal islands to the Alaska Commercial Company was renewed on Feb. 18 by the St. Petersburg government authorities. The views of the Russian Government on the Bering Sea question were communicated to the State Department at Washington on Feb. 25. The representatives of ten American republics signed the international arbitration treaty at the Pan-American Congress in Washington on April 28. On the 29th the bill to extend the *modus vivendi* with the United States passed the Dominion Parliament. The treaty with the Samoan Government was signed at Apia on April 19. On May 19 Secretary Blaine sent a letter to Congress recommending an inter-continental railway. A commission of inquiry was appointed to visit the Alaska seal fisheries during the summer. The scheme of an international American bank discussed by the Pan-American Congress was presented on May 27 to both houses of Congress in a message of the President, and the report on a customs union of the republics was transmitted on June 19. On July 2 a message to Congress from President Harrison urged the adoption of measures to facilitate postal and cable communications with Central and South America, and on the 12th he approved the report of the Pan-American Congress on monetary union. Immediately after the adjournment of the International American Conference the delegates of eleven of the nations represented by virtue of their plenipotentiary powers formally accepted in the name of their respective governments the proposed plan for submitting all disputes between them to arbitration before resorting to arms. The remaining governments have till April 21, 1891, to signify their accession and to sign the treaty, which will then be submitted to the United States Senate for ratification. These governments are the Argentine Republic, Chili, Hayti, Mexico, Paraguay, and Peru. In conformity with the desire of the conference, President Harrison transmitted to the European governments the recommendations concerning the adoption of arbitration for the settlement of international disputes. The recommendations respecting the survey of a route for an intercontinental railroad were adopted by Congress, which



HENRY BILLINGS BROWN.

Department and of ship builders and steel manufacturers was held in Washington in October with reference to the building of vessels for the United States navy. Mayor Grant's demand for a re-enumeration of the population of New York city was refused by the Census Bureau on Oct. 17, and on Nov. 6 Secretary Noble refused a second request of the mayor of the city. On Oct. 31 Judge Caldwell, in the Circuit Court, decided against the right to sell liquor in original packages under the new act of Congress signed by the President on Aug. 8. In Philadelphia, Judge Reed decided that the law passed by the Legislature of Pennsylvania to forbid the sale of oleomargarine was unconstitutional in so far as it applied to merchandise brought from other States and sold without breaking the original packages. A formal announcement of the World's Columbian Exposition, to be held in Chicago in 1893, was made in a proclamation issued by President Harrison on Dec. 24.

On Feb. 12 the Senate confirmed the appointment of Gen. Thomas J. Morgan as Indian Commissioner. As Commissioner of Fisheries in the place of R. W. Sherman, who resigned, President Harrison named Lawrence D. Huntington, of New York. The death of Justice Samuel F. Miller created a vacancy in the bench of the Supreme Court, which the President filled by

appropriated \$65,000 as the share of the United States in the survey for the first year. Similar action was taken by the governments of the Argentine Republic, Bolivia, Brazil, Colombia, Ecuador, Mexico, Paraguay, Peru, and Venezuela.



DAVID J. BREWER.*

In pursuance of a resolution of Congress the President sent invitations for a meeting of delegates to consider the establishment of an international monetary union to assemble at Washington on the first Wednesday in January, 1891. The recommendations for the establishment of an international bureau of information at Washington were approved by Congress, and the bureau has been organized by the Secretary of State. The preparation of a code of nomenclature for articles of merchandise exported and imported was begun, and when completed it will be submitted to the several governments represented at the conference. Congress adopted also the recommendations in regard to reciprocity treaties, and authorized the President to enter into negotiations for the free exchange of certain products with the countries of South and Central America.

Robert Adams, Jr., was nominated minister to Brazil on Jan. 30, and confirmed by the Senate on Feb. 11. Charles Emory Smith was nominated minister to Russia on Feb. 10. Adam E. King, of Maryland, was appointed consul-general at Paris on July 3. On Sept. 26 the President sent in the name of E. Burd Grubb, of New Jersey, as minister to Spain, and that of Edwin H. Conger, of Iowa, as minister to Brazil. Mr. Adams having resigned, and both appointments were promptly approved by the Senate. As members of the International Railway Commission he nominated, on Sept. 29, A. J. Cassatt, of Pennsylvania, George M. Pullman, of Illinois, and Henry G. Davis, of West Virginia. For the vacant Portuguese legation he selected, on Sept. 30, George S. Batcheller, of New York.

The Army.—The army of the United States in 1890 had 2,170 officers on the list and a total force of 23,220 enlisted men. In the 25 infantry regiments, of which 2 are colored, there were 877 officers and 12,125 men; the 10 regiments of cavalry, 2 of them colored troops, had 432 officers

and 6,050 men; the 5 regiments of artillery, of 12 batteries each, contained 282 officers and 3,675 men; and the battalion of engineers, recruiting parties, ordnance department, hospital service, Indian scouts, Military Academy, signal-service detachment, and different branches of the administrative service numbered 579 officers and 3,370 men. Maj.-Gen. John M. Schofield, commanding the army, has his headquarters at Washington. Maj.-Gen. Oliver O. Howard was in command of the military division of the Atlantic, occupied by 2 regiments of infantry and 4 of artillery. Maj.-Gen. Nelson A. Miles commanded the Division of the Missouri, where 19 regiments of infantry and 7 of cavalry are stationed. The Department of Dakota was in command of Brig.-Gen. Thomas H. Ruger. The Division of the Pacific, occupied by 4 regiments of infantry, 3 of cavalry, and 1 of artillery, was commanded by Brig.-Gen. John Gibbon. The commands in the other military departments were distributed as follow: Department of the Missouri, Brig.-Gen. Wesley Merritt; Department of Texas, Brig.-Gen. David S. Stanley; Department of the Columbia, Brig.-Gen. John Gibbon; Department of the Platte, Brig.-Gen. John R. Brooke; Department of Arizona, Brig.-Gen. A. McD. McCook. Brig.-Gen. John C. Kelton was adjutant-general of the army; Brig.-Gen. Richard N. Bacheider, quartermaster-general; Brig.-Gen. William Smith, paymaster-general; Brig.-Gen. Beekman Du Bary, commissary-general; Brig.-Gen. C. Sutherland, surgeon-general; Brig.-Gen. Adolphus W. Greely, chief signal officer; Brig.-Gen. Thomas L. Casey, chief of engineers; Brig.-Gen. Joseph C. Breckinridge, inspector-general; and Col. Guido N. Lieber, acting judge advocate general.

Pensions.—The disbursements on account of military pensions during the year ending June 30, 1890, was \$106,493,890. The number of pensioners on the rolls at the end of the year was 537,944, an increase during the year of 48,219. Of the total number, 392,809 were invalid ex-soldiers, an increase of 41,325; 104,456 widows of soldiers, an increase of 6,866; 5,274 invalids of the navy, an increase of 727; 2,460 widows of persons who had served in the navy, an increase of 194; 413 survivors of the War of 1812, a decrease of 190; 8,610 widows of survivors of 1812, a decrease of 1,354; 17,158 survivors of the war with Mexico, an increase of 93; and 6,764 widows of soldiers in the war with Mexico, an increase of 558. The number of applications filed in 1890 was 105,044 and the number of claims allowed was 66,637, of which 50,375 were claims of invalids and 14,612 of widows and others. The average annual amount of the pensions on the roll at the end of 1889-'90 was \$133.94.

Postal Service.—The number of post-offices on June 30, 1890, was 62,401, an increase during the year of 3,905. The revenue of the department for the year 1889-'90 was \$60,882,097, and the expenditure \$65,930,717. During the two years preceding 14,072 postmasters were removed, 6,274 of them in 1889-'90. The number of new appointments for the two years was 26,680. The increase in receipts as compared with the previous year was over \$4,750,000.

Public Lands.—The aggregate area of public lands in the States and Territories surveyed

* For a biographical sketch of Justice David J. Brewer, see the "Annual Cyclopædia" for 1889, p. 805.

up to June 30, 1890, was 986,084,675 acres, and the area remaining unsurveyed was 829,419,472 acres, including unsurveyed railroad, school, swamp land, and private claims, Indian and other reservations, and the mountain areas and other districts unfit for settlement. A comparatively small quantity of the public lands suitable for homesteads remain available under the laws of free entry. Alaska, containing 369,529,600 acres, is not included in the above total. The Government, up to June 30, 1890, had patented to States for wagon roads 1,782,731 acres; to States for canals, 4,424,073 acres; to States and corporations for railroads, 51,379,346 acres; and under river-improvement grants, 1,406,210 acres; total, 58,992,360 acres. The number of acres entered under the homestead act in 1890 was 5,531,678, compared with 6,029,230 in 1889, 6,676,616 in 1888, 7,594,350 in 1887, 9,145,136 in 1886, 7,415,886 in 1885, and 7,831,510 in 1884. The number of acres entered under the timber culture act was 1,787,403 in 1890, compared with 2,551,069 in 1888, 3,735,305 in 1887, 4,224,397 in 1886, 5,391,309 in 1885, 4,755,006 in 1884, and 4,084,464 in 1883. The number of acres transferred to actual settlers during 1889-'90 was 19,000,000. The receipts from public lands were \$7,470,370.

Indians.—The Indian population of the United States in 1890, exclusive of the five civilized tribes and the Indians of Alaska, was 250,483. Of these, 67,586 were clothed wholly and 44,522 in part in citizens' dress, 21,576 could read, 24,976 could speak English well enough for ordinary intercourse, and 19,785 were members of Christian churches. The number of dwelling houses occupied by Indians was 16,544, and 167 church buildings were provided for them. The number of Indian apprentices was 570. There were 253 male missionaries in the tribes. The number of births during 1889-'90 was 5,181; of deaths, 4,719. There were 36 Indians killed by Indians, 13 killed by citizens, and 7 whites killed by Indians during the year; and the number of Indian criminals condemned by civil and military tribunals was 666, and by tribal tribunals 529, while 234 crimes were committed by white men against Indians. The Indians of Alaska are estimated to number 37,000. The aggregate area of the various Indian reservations in the United States is about 116,000,000 acres, or 181,250 square miles, or sufficient to give each individual Indian over 750 acres. During 1889 and 1890 arrangements were made for the transfer of 14,726,000 acres of the Indian lands to the Government.

On Feb. 10 the Sioux Reservation in South Dakota was opened to settlement by the proclamation of President Harrison.

Political Conventions.—A convention of colored men met in Washington which, on Feb. 6, nominated P. B. S. Pinchback as candidate for the presidency. On Feb. 18 the National Woman Suffrage Association assembled in convention in Washington. The Republican National Committee came together at Washington on May 27. On May 28, and the following days, a reunion of Federal and Confederate soldiers was held at Vicksburg. A national convention of the Farmers' Alliance began at Ocala, Fla., on Dec. 2 (see the article FARMERS' ALLIANCE, in this volume).

UNITED STATES CENSUS. The eleventh decennial census of the United States, taken in 1890, promises to produce better results than any investigation of the kind before attempted. The act authorizing it, approved March 1, 1889, provided for a census of the population, wealth, and industry of the United States, to be taken June 1, 1890. It was enacted that the schedules of inquiries should be the same as those provided for in the Revised Statutes of 1878, as amended by section 17 of the act of March 3, 1879, "with such changes of the subject matter, emendations, and modifications as may be approved by the Secretary of the Interior, it being the intent of this section to give to said Secretary full discretion over the form of the schedules of such inquiries." Among other changes made before final issue of the new schedules, it was required to be ascertained what language was spoken by each person enumerated; the length of time a resident of the United States; if naturalized, and if naturalization papers had been taken out. Questions were included to discover from mothers the number of their children, and of such number, how many were living. The act directed that the names, organizations, and length of service of those who had served in the army, navy, or marine corps of the United States in the civil war, and who were survivors at the time of the census inquiry, and the widows of soldiers, sailors, or marines, be taken on a special schedule. It was also required that the population schedule should include an inquiry as to the number of negroes, mulattoes, quadroons, and octoroons. The Superintendent of Census was instructed to obtain from railroad corporations, incorporated express companies, telegraph companies, insurance companies, and all corporations or establishments reporting products other than agricultural products, reports of and for the fiscal year terminating nearest to the first of June, 1890. That officer was also authorized to collect and publish statistics of the population, industries, and resources of the Territory of Alaska, "with such fullness as he may deem expedient, and as he shall find practicable under the appropriations made, or to be made, for the expenses of the eleventh census." Authority was given to collect the statistics of and relating to the recorded indebtedness of private corporations and individuals, such statistics to be gathered at the same time as, or prior to, the general enumeration. Information as to animals not on farms was called for from official sources. In section 9 of the act the Superintendent of Census was authorized to employ special agents or other means to make an enumeration of all Indians living within the jurisdiction of the United States, and obtain information as to their condition, classifying them as to Indians taxed and Indians not taxed.

It was definitely stated that the only volumes to be prepared and published in connection with the census should relate to population and social statistics relating thereto, the products of manufactures, mining, and agriculture, mortality and vital statistics, valuation and public indebtedness, recorded indebtedness, railroad corporations, incorporated express, telegraph, and insurance companies, a list of the names, organizations, and length of service of surviving sol-

diers, sailors, and marines, and the widows of soldiers, sailors, and marines.

The appointment of experts to collect special statistics was permitted by a provision of section 18, to the effect that the Superintendent might withhold the schedules for manufacturing, mining, and social statistics from the enumerators of the several subdivisions, and might charge the collection of these statistics upon experts and special agents, to be employed without respect to locality. The employment of experts and special agents to investigate and ascertain the statistics of the manufacturing, railroad, fishing, mining, cattle, and other industries of the country, and of telegraph, express, transportation, and insurance companies was also sanctioned.

What is termed the special work of the census, branching out in one way or another from the information contained in enumerators' schedules, or altogether separate and distinct from the question of population, called for the formation of numerous divisions, each placed in charge of a special agent or chief of division. To show the method of organization, the names or titles of these divisions are here given: Appointments, Disbursements and Accounts, Geography, Population, Vital Statistics, Church Statistics, Education, Pauperism and Crime, Wealth, Debt and Taxation, National and State Finance, Farms, Homes and Mortgages, Agriculture, Manufactures, Mines and Mining, Fish and Fisheries, Transportation, Insurance, Printing and Stationery, Special Classes, Alaska, Indians, Social Statistics of Cities, Revision and Results.

The titles of the first two are sufficient to explain the nature of work to be done. The division of Geography is responsible for the proper definitions of all boundaries, and the exact location of every place referred to in official census maps and charts. The distribution of population in latitude and longitude, determination of the center of population, distribution by drainage basins and in accordance with temperature, rain fall, elevation above sea-level, and certain topographical features is defined and planned as part of the general work. The Population division, responsible primarily for the work of enumerators, then undertakes the reception and sorting of schedules, with all arrangements for the preparation of exhibits showing in every detail the preliminary and final results of the census proper. In addition to the preparation of material for the population volume, the task of compiling the volume to contain the names, organizations, and length of service of those who served in the army, navy, or marine corps in the civil war, and who were survivors at the time of the census inquiry, and the widows of soldiers, sailors, or marines will be carried out in this division. The editing of this latter work includes a comparison of returns received from enumerators with the records of the Pension Office. The division of Vital Statistics accepts the responsibility of giving complete and accurate information concerning marriages, births, and deaths. It includes special studies of birth and death rates, the latter in relation to topography, drainage, character of habitations, overcrowding, poverty, and other environments. Several other special investigations are being made.

STATES AND TERRITORIES.	AREA IN SQUARE MILES.		
	Gross area.	Water surface.	Land surface.
Alabama.....	52,250	710	51,540
Arizona.....	113,020	100	112,920
Arkansas.....	58,550	805	58,045
California.....	155,360	2,380	153,980
Colorado.....	103,925	280	108,645
Connecticut.....	4,990	145	4,845
Delaware.....	2,050	90	1,960
District of Columbia.....	70	10	60
Florida.....	58,680	4,440	54,240
Georgia.....	59,475	495	58,980
Idaho.....	84,800	514	84,280
Illinois.....	56,650	650	56,000
Indiana.....	36,850	440	35,910
Indian Territory.....	31,400	400	31,000
Iowa.....	56,025	550	55,475
Kansas.....	82,080	890	81,700
Kentucky.....	40,400	400	40,000
Louisiana.....	48,720	3,800	45,420
Maine.....	39,040	8,145	29,505
Maryland.....	12,210	2,850	9,360
Massachusetts.....	8,315	275	8,040
Michigan.....	58,915	1,485	57,430
Minnesota.....	83,865	4,160	79,705
Mississippi.....	46,810	470	46,340
Missouri.....	69,415	680	68,735
Montana.....	146,080	770	145,310
Nebraska.....	77,510	670	76,840
Nevada.....	110,700	960	109,740
New Hampshire.....	9,305	800	9,005
New Jersey.....	7,815	860	7,455
New Mexico.....	122,580	120	122,460
New York.....	49,170	1,530	47,640
North Carolina.....	52,250	3,670	48,580
North Dakota.....	70,735	600	70,135
Ohio.....	41,060	800	40,760
Oklahoma.....	89,080	200	88,880
Oregon.....	96,080	1,470	94,610
Pennsylvania.....	45,215	290	44,925
Rhode Island.....	1,250	165	1,085
South Carolina.....	80,570	400	80,170
South Dakota.....	77,550	800	76,750
Tennessee.....	42,050	300	41,750
Texas.....	267,780	3,490	264,290
Utah.....	84,970	2,780	82,190
Vermont.....	9,565	480	9,185
Virginia.....	42,450	2,325	40,125
Washington.....	69,180	2,300	66,880
West Virginia.....	24,780	135	24,645
Wisconsin.....	56,040	1,500	54,470
Wyoming.....	97,890	315	97,575
Delaware Bay.....	620	620	.....
Karlin Bay and Lower New York.....	100	100	.....
Total.....	3,025,600	55,600	2,970,000

The scope of inquiry under the heading of Church Statistics is limited to organizations or societies; church edifices, seating capacity; value of church property, and number of communicants. The division of Education aims to secure a full statement of the financial condition of the public-school system, with a showing, as complete as possible, of the forces engaged in education in the great groups of public, private, and parochial schools, with the number of pupils. A special feature will be the enumeration of pupils under occupations, from which columns or tables will be prepared showing who attended school as reported by the patrons. The Pauperism and Crime division will furnish a survey of the machinery of arrest, namely, the police and the constabulary; of conviction, i.e., courts having criminal jurisdiction; of incarceration, or the prison and the prisoner; and of release from prison. Reformatories for juvenile offenders and others will be dealt with. The cost of pauperism, with paupers supported in almshouses, will be shown in the report. The division of Wealth,

Debt, and Taxation includes in its inquiries the valuation, taxation, and indebtedness of all minor civil divisions, with exhibits of receipts and expenditures, assets and liabilities. National and State Finance embrace tables and texts concerning the past and present financial condition of every State and Territory, with exhibits explaining fully the receipts and expenditures of public moneys in every foreign country. A full history of all national loans forms part of the general work. The principal task of the division of Farms, Homes, and Mortgages is to discover as far as possible the financial transactions of the people, as far as indicated by recorded mortgages, for the ten years from 1880 to 1889, the number of acres of agricultural land, and the number of real-estate holdings, by States and minor civil divisions, which have been mortgaged in each year; and the amount of mortgage debt placed upon these two classes of real estate by years and by counties will be ascertained. The amount of mortgage debt upon agricultural lands and upon village and city real estate, with rates

of interest paid upon debt secured by real estate, will be given for each county. Agriculture, as a special inquiry, will deal with the productions of meats, cotton, tobacco, and the cereals, developing under these heads for the past ten years the results obtained in the tenth census. The same may be said of forestry. Special reports will be made on horticulture, viticulture, irrigation, the production of sugar, and the peculiar conditions of farm occupancy prevailing in the South. The division of Manufactures is to cover the whole ground, including such specialties as distilled spirits, electrical appliances, printing, publishing, and the periodical press. Mines and Mining, as a special inquiry, take in all mineral resources, treating each subject more exhaustively than has ever been attempted. The divisions under the headings of Fish and Fisheries, Transportation, and Insurance have each in charge a full investigation into these respective subjects. Special Classes will be reported on in tables and texts giving all particulars as to the insane, feeble-minded, deaf, blind, and sick. Statistics

STATES AND TERRITORIES.	POPULATION.				
	1890.	1880.	1870.	1860.	1850.
Alabama.....	1,518,017	1,262,505	996,992	964,201	771,623
Alaska.....	21,929	33,426	.....	.....	.....
Arizona.....	59,620	40,440	9,658	.....	.....
Arkansas.....	1,128,179	802,525	484,471	435,450	299,897
California.....	1,208,190	864,694	560,347	379,994	292,967
Colorado.....	412,198	194,827	39,864	84,277	.....
Connecticut.....	746,258	622,760	537,454	400,147	370,792
Delaware.....	168,498	146,608	125,015	112,216	91,592
District of Columbia.....	290,392	177,624	181,700	75,080	81,687
Florida.....	891,422	260,468	187,748	146,424	87,445
Georgia.....	1,837,238	1,642,180	1,184,109	1,057,256	906,185
Idaho.....	84,885	32,610	14,999	.....	.....
Illinois.....	3,826,351	3,077,871	2,739,891	1,771,951	1,501,470
Indiana.....	2,192,404	1,978,301	1,680,687	1,350,428	958,416
Indian Territory.....	(1) 182,944	.....	.....	.....	.....
.....	(2) 58,885	.....	.....	.....	.....
Iowa.....	1,911,896	1,624,615	1,194,020	674,918	192,214
Kansas.....	1,427,096	996,096	364,389	107,206	.....
Kentucky.....	1,858,635	1,648,690	1,321,011	1,155,684	982,405
Louisiana.....	1,118,587	989,946	726,915	708,002	517,762
Maine.....	661,096	618,096	629,915	622,279	583,199
Maline.....	1,642,390	994,948	780,894	687,049	553,634
Maryland.....	2,238,943	1,738,085	1,457,351	1,231,066	994,514
Massachusetts.....	2,098,889	1,636,937	1,184,059	749,113	397,654
Michigan.....	1,301,826	780,778	439,706	172,028	6,077
Minnesota.....	1,280,600	1,131,597	827,922	791,895	606,526
Missouri.....	2,679,184	2,168,880	1,721,295	1,182,012	652,044
Montana.....	182,159	89,159	20,505	.....	.....
Nebraska.....	1,058,910	452,402	122,968	28,841	.....
Nevada.....	45,761	62,266	22,491	6,837	.....
New Hampshire.....	374,593	316,591	318,360	326,078	317,976
New Jersey.....	1,444,938	1,131,116	906,090	672,005	439,555
New Mexico.....	151,598	119,635	91,474	98,516	61,547
New York.....	5,997,883	5,082,871	4,382,579	3,880,785	3,097,394
North Carolina.....	1,617,947	1,399,750	1,071,861	992,622	869,089
North Dakota.....	182,719	36,909	+ 14,817	.....	.....
Ohio.....	3,672,316	3,198,062	2,665,269	2,339,511	1,950,329
Oklahoma.....	61,834	.....	.....	.....	.....
Oregon.....	318,767	174,768	90,923	52,465	13,294
Pennsylvania.....	5,258,014	4,282,861	3,321,951	2,906,215	2,311,776
Rhode Island.....	345,596	276,591	217,858	174,629	147,545
South Carolina.....	1,151,149	995,577	705,606	508,708	368,597
South Dakota.....	328,898	88,268	.....	.....	.....
Tennessee.....	1,767,518	1,542,520	1,258,520	1,169,891	1,092,717
Texas.....	2,235,521	1,591,749	1,181,579	694,215	212,592
Utah.....	207,905	143,963	86,786	46,273	11,880
Vermont.....	392,422	332,286	330,251	315,998	314,120
Virginia.....	1,765,980	1,512,565	1,295,163	1,266,818	1,421,661
Washington.....	349,990	75,116	29,955	11,304	.....
West Virginia.....	762,794	618,457	442,614	.....	.....
Wisconsin.....	1,686,880	1,315,497	1,054,070	775,881	805,591
Wyoming.....	60,705	20,739	9,118	.....	.....
Totals.....	62,885,548	50,266,104	38,558,371	31,443,321	23,191,576

• (1) Civilized tribes, 66,289; nation Indians, 8,708; whites, 107,957.

(2) Indians on reservations in various States and Territories.

+ Inclusive of South Dakota.

of all kinds having reference to Alaska are being prepared. In the report will be included a full statement of present resources and probable future of that Territory, based on observation by several special agents. The present condition of the Indians on reservation and elsewhere, will be the subject of a separate report compiled from numerous authentic statements handed in by persons authorized to make investigations in every section of the country. One of the most interesting investigations now being carried on is in the division of Social Statistics of Cities. It will include altitude, cemeteries, drainage, fire departments, government, licenses, parks, police, public buildings, streets, street lighting, and water works. The intention is to deal with cities having a population of 10,000 or more.

The results of the eleventh census will be printed in 13 volumes. The first volume will give all data as to population by States, counties, and towns, nativity, color, etc.; Vol. II, health and physical conditions, vital and morality statistics; Vol. III, public schools, illiteracy, pauperism and crime, and churches and religious denominations; Vol. IV, trades and professions; Vol. V, survivors of the late war; Vol. VI, wealth, taxation, public indebtedness, estimated values of property; Vol. VII, indebtedness of business corporations and individuals, including mortgage indebtedness; Vol. VIII, agricultural statistics; Vol. IX, manufactures; Vol. X, mines and mining; Vol. XI, fish and fisheries; Vol. XII, transportation, railways, navigation, telegraphs, and telephones; Vol. XIII, insurance. A large number of bulletins have already been issued, giving results ascertained from various official sources through the instrumentality of special agents in charge of the several divisions. By means of these bulletins the public, through the press and other agencies, are kept informed as to the progress of the investigations.

Robert P. Porter, who was special agent in charge of the statistics of wealth, debt, and taxation in the Tenth Census, is Superintendent of the Eleventh Census. Albert F. Childs is chief clerk. The official staff consists, in addition to the superintendent, chief clerk, and stenographers, of 1 disbursing clerk, special agents, and 10 chiefs of division. The act of 1889 provided for the appointment of a superintendent of census at an annual salary of \$6,000; a chief clerk and a disbursing clerk at \$2,500; 2 stenographers and 10 chiefs of division at \$2,000; 10 clerks of class four, 20 clerks of class three, 30 clerks of class two, "with such number of clerks of class one, and of clerks, copyists, and computers, at salaries of not less than \$720 nor more than \$1,000 per annum, as may be found necessary for the proper and prompt compilation of the results of the enumeration of the census herein provided to be taken." The actual ratings for those employed in clerical and statistical work in the Census Office are: Skilled laborers, \$900; computers, \$720; copyists, \$900; clerks, \$1,000; clerks of class one, \$1,200; of class two, \$1,400; of class three, \$1,600; of class four, \$1,800. The pay of special agents is from \$2 to \$6 a day, with or without subsistence and traveling allowances, according to circumstances. The disbursing clerk gives bonds to the Treasurer of the United States in the sum of \$50,000.

CENSUS OF CITIES.	1850.	1870.	1890.
Akron, Ohio	8,966	16,406	27,601
Albany, N. Y.	50,763	69,422	94,928
Alexandria, Va.	8,734	18,570	14,269
Allegheny, Pa.	21,262	33,180	105,287
Allentown, Pa.	8,779	18,884	25,228
Alpena, Mich.	290*	2,612	11,284
Altoona, Pa.	3,791*	10,610	30,347
Amsterdam, N. Y.	4,128*	7,706	17,896
Appleton, Wis.	2,945*	4,518	11,469
Atchison, Kan.	2,616*	7,054	13,903
Atlanta, Ga.	2,572	21,789	67,368
Atlantic City, N. J.	67*	1,048	18,055
Auburn, Me.	2,240	6,169	11,250
Aurora, N. Y.	9,518	17,225	25,858
Augusta, Ga.	11,738	15,889	38,500
Aurora, Ill.	1,895	11,162	19,685
Austria, Tex.	629	4,428	14,476
Baltimore, Md.	169,954	267,354	434,439
Bangor, Me.	14,432	18,289	19,193
Basile Creek, Mich.	1,064	5,889	13,197
Bay City, Mich.	1,588*	7,064	27,889
Bayonne, N. J.		3,884	19,083
Beatrice, Neb.		624	18,896
Belleville, Ill.	9,941	8,146	15,361
Biddeford, Me.	6,095	10,282	14,448
Birmingham, N. Y.	8,825*	12,692	55,005
Birmingham, Ala.		8,086†	26,178
Boston, Mass.	184,881	250,526	448,477
Bridgport, Conn.	7,560	18,569	48,566
Bridgton, N. J.	2,446	6,807	11,424
Brockton, Mass.		8,007	37,294
Brookline, Mass.	2,716	6,650	12,108
Brooklyn, N. Y.	96,888	306,959	806,943
Buffalo, N. Y.	42,261	117,714	265,264
Burlington, Iowa	4,032	14,980	22,565
Burlington, Vt.	1,475	14,887	14,560
Cambridge, Mass.	15,215	39,694	70,928
Camden, N. J.	9,479	20,045	58,318
Canton, Ohio	2,603	8,600	20,189
Cedar Rapids, Iowa		5,940	18,929
Charleston, S. C.	42,683	48,566	54,955
Charlotte, N. C.	1,065	4,473	17,557
Chattanooga, Tenn.		6,093	29,100
Chelsea, Mass.	6,701	18,547	27,909
Chester, Pa.	1,667	9,485	20,226
Cheyenne, Wyo.	108*	1,450	11,690
Chicago, Ill.	29,963	298,977	1,099,507
Chicopee, Mass.	8,291	9,607	14,020
Chillicothe, Ohio	7,163	8,229	11,288
Cincinnati, Ohio	115,435	216,239	296,908
Cleveland, Ohio	17,094	62,829	261,853
Clinton, Iowa	1,816*	6,129	13,619
Cohoes, N. Y.	4,229	13,557	22,509
Columbia, S. C.	6,070	9,298	18,213
Columbus, Ga.	5,942	7,401	17,808
Columbus, Ohio	17,882	31,274	88,150
Corcoran, N. H.	8,576	12,241	17,004
Council Bluffs, Iowa	2,011*	10,029	21,474
Covington, Ky.	9,409	23,505	87,371
Cumberland, Md.	6,073	8,056	12,729
Dallas, Tex.		2,967	38,067
Danbury, Conn.	5,964	6,542	10,552
Danville, Ill.	756	4,751	11,491
Davenport, Iowa	1,848	20,088	26,872
Dayton, Ohio	10,977	30,473	61,220
Decatur, Ill.	8,899*	7,161	16,841
Denver, Col.	4,749*	4,759	106,718
Des Moines, Iowa	502	12,035	50,098
Detroit, Mich.	21,019	79,577	245,872
Dover, N. H.	8,196	9,234	12,790
Dubuque, Iowa	8,108	18,434	30,811
Durham, N. H.	70*	3,181	38,115
Easton, Pa.	7,250	10,387	14,481
East St. Louis, Ill.		5,614	15,169
Eau Claire, Wis.		2,268	17,415
Elgin, Ill.	2,359	5,441	17,828
Elizabeth, N. J.	5,558	20,892	87,764
Elkhart, Ind.	1,065	3,265	11,760
Elmira, N. Y.	8,166	15,863	29,708
Erie, Pa.	5,858	19,646	40,634
Evansville, Ind.	3,255	21,880	50,756
Everett, Mass.		2,220	11,068
Fall River, Mass.	11,524	26,766	74,398
Findlay, Ohio	1,256	8,315	18,758
Fitchburg, Mass.	5,120	11,260	22,637
Fond-du-Lac, Wis.	2,014	12,764	12,024
Fort Scott, Kan.	262*	4,174	11,246

* In 1860. Census figures for 1850 not available.

† In 1880. Census figures for 1870 not available.

CENSUS OF CITIES.	1850.	1870.	1890.	CENSUS OF CITIES.	1850.	1870.	1890.
Fort Smith, Ark.	964	2,227	11,811	New Brunswick, N. J.	10,019	15,058	18,668
Fort Wayne, Ind.	4,282	17,718	85,393	Newburgh, N. Y.	11,415	17,014	28,077
Fort Worth, Tex.	1,028	12,076	29,076	Newburyport, Mass.	9,552	12,565	18,947
Galveston, Tex.	882	10,158	15,364	New Castle, Pa.	1,614	6,164	11,600
Galveston, Tex.	4,177	13,818	29,084	New Haven, Conn.	20,345	56,840	81,298
Glocester, Mass.	7,786	15,889	24,651	New London, Conn.	8,991	9,576	18,757
Gloversville, N. Y.	4,518	18,864	18,864	New Orleans, La.	116,375	191,418	242,089
Grand Rapids, Mich.	2,686	16,547	60,278	Newport, Ky.	5,885	15,087	24,918
Hagerstown, Md.	2,879	5,779	10,118	Newport, R. I.	9,563	12,521	19,457
Hamilton, Ohio	3,210	11,981	17,565	Newton, Mass.	5,258	12,825	21,519
Hannibal, Mo.	2,020	10,125	12,857	New York, N. Y.	515,547	942,292	1,515,301
Harrisburg, Pa.	7,884	23,104	89,385	Norfolk, Va.	14,926	19,229	34,871
Hartford, Conn.	17,966	57,190	138,230	Norristown, Pa.	6,024	10,758	19,791
Hastings, Neb.	2,817	18,992	27,412	North Adams, Mass.	5,278	10,191	16,074
Haverhill, Mass.	8,571	4,817	11,872	Northampton, Mass.	4,651	10,160	14,990
Hazleton, Pa.	1,707	8,106	13,834	Norwalk, Conn.	10,265	16,653	16,156
Helena, Mont.	2,668	20,297	43,618	Norwich, Conn.	1,549	8,127	14,889
Hoboken, N. J.	3,245	10,738	35,687	Oakland, Cal.	7,469	10,076	11,662
Holyoke, Mass.	2,896	9,882	27,537	Ogden, Utah.	1,464	8,127	14,889
Houston, Tex.	8,091	48,244	105,486	Ogdenburg, N. Y.	1,609	10,076	11,662
Indianapolis, Ind.	6,069	11,197	11,197	Omaha, Neb.	4,885	16,038	140,452
Jaspington, Mich.	2,369	10,107	11,079	Orange, N. J.	6,996	9,918	18,844
Jackson, Mich.	1,045	6,912	17,201	Oriskany, Wis.	12,305	12,082	22,896
Jacksonville, Fla.	2,745	9,208	10,740	Oswego, N. Y.	12,305	20,910	21,842
Jacksonville, N. Y.	3,155	5,836	16,038	Paducah, Ky.	2,428	6,866	18,076
Jeffersonville, Ind.	2,122	7,254	10,666	Passaic, N. J.	6,592	13,028	17,897
Jersey City, N. J.	6,856	82,546	163,003	Paterson, N. J.	11,334	38,579	78,847
Joliet, Ill.	2,659	7,263	23,264	Pawtucket, R. I.	6,619	6,619	27,638
Kalamazoo, Mich.	2,507	9,181	17,838	Pensacola, Fla.	2,164	8,347	11,750
Kansas City, Kan.	3,200	38,816	132,716	Peoria, Ill.	5,095	22,849	41,024
Kansas City, Mo.	2,178	14,101	18,080	Petersburg, Va.	14,010	18,950	22,680
Keokuk, Iowa	2,967	8,616	18,080	Philadelphia, Pa.	121,876	674,022	1,046,964
Kingston, N. Y.	10,232	21,948	21,261	Pittsburg, Pa.	46,601	68,076	298,617
Knoxville, Tenn.	2,076	8,682	22,535	Pittsburg, Mo.	5,752	11,112	18,543
La Crosse, Wis.	8,925	7,785	25,090	Portland, Me.	20,815	31,418	86,425
La Fayette, Ind.	6,129	18,506	16,243	Portland, Ore.	2,852	8,293	46,885
Lancaster, Pa.	12,869	20,233	82,011	Portsmouth, Ohio.	4,011	10,592	12,894
Lansing, Mich.	1,229	5,241	13,102	Pottstown, Pa.	1,664	4,125	13,285
Laredo, Tex.	1,266	2,046	11,319	Pottsville, Pa.	7,515	12,884	14,117
Lawrence, Mass.	8,282	28,921	44,654	Poughkeepsie, N. Y.	20,080	22,206	22,206
Leadville, Col.	7,429	14,820	11,212	Providence, R. I.	41,513	68,904	132,146
Leavenworth, Kan.	7,429	17,573	11,212	Pueblo City, Col.	6,092	666	24,558
Lebanon, Pa.	2,184	6,727	10,768	Quincy, Ill.	7,017	24,062	82,896
Lawton, Mo.	2,941	18,600	21,701	Quincy, Mass.	5,107	9,880	21,014
Lexington, Ky.	9,921	14,801	21,567	Racine, Wis.	4,514	7,790	12,678
Lima, Ohio.	757	4,500	15,957	Reading, Pa.	15,743	33,980	58,661
Lincoln, Neb.	2,441	55,154	1,448	Richmond, Ind.	1,448	9,445	16,605
Lima, R. I.	7,889	20,355	25,874	Richmond, Va.	27,570	51,038	81,788
Little Rock, Ark.	2,167	12,830	16,088	Rochester, N. Y.	3,006	62,886	153,896
Lockport, N. Y.	12,928	12,426	16,088	Rochford, Ill.	2,098	11,049	23,554
Logansport, Ind.	2,251	8,950	13,328	Rock Island, Ill.	1,711	7,800	13,634
Long Island City, N. Y.	1,000	8,867	90,506	Rome, N. Y.	5,018	11,910	11,910
Los Angeles, Cal.	48,194	100,758	161,129	Rutland, Vt.	8,715	9,884	11,760
Louisville, Ky.	33,383	40,928	77,666	Sacramento, Cal.	6,820	16,288	26,886
Lowell, Mass.	8,067	6,225	19,709	Saginaw, Mich.	917	7,460	46,822
Lynchburg, Va.	14,357	28,293	55,727	St. Joseph, Mo.	5,892	19,565	52,324
Lynn, Mass.	5,720	10,810	22,746	St. Louis, Mo.	77,860	310,864	451,770
Macon, Ga.	1,525	9,176	13,426	St. Paul, Minn.	1,112	20,000	138,176
Madison, Wis.	573	5,531	11,286	Salem, Mass.	20,264	24,117	80,861
Mahoney, Pa.	8,320	7,367	23,061	Salt Lake City, Utah.	6,157	12,834	44,918
Malden, Mass.	13,952	23,396	44,126	San Antonio, Tex.	8,488	12,256	57,678
Manchester, N. H.	3,387	8,543	12,812	San Diego, Cal.	731	2,340	16,159
Manistee, Mich.	8,957	8,929	13,773	Sandusky, Ohio.	8,408	13,000	17,471
Marquette, Mich.	474	1,334	11,523	San Francisco, Cal.	56,802	149,473	298,997
Marlborough, Mass.	2,941	8,474	13,805	San Jose, Cal.	8,679	9,089	18,069
McKeesport, Pa.	1,392	2,523	20,741	Saratoga Springs, N. Y.	4,650	8,597	11,575
Medford, Mass.	8,749	5,717	11,079	Savannah, Ga.	15,312	28,285	43,182
Memphis, Tenn.	8,841	20,226	64,495	Seneca Falls, N. Y.	8,921	11,026	19,069
Meriden, Conn.	3,559	10,495	21,652	Seranton, Pa.	9,223	33,092	75,215
Middletown, N. Y.	3,065	6,049	11,977	Seattle, Wash.	1,107	1,107	42,857
Milwaukee, Wis.	20,061	71,440	204,468	Sedalia, Mo.	2,191	4,550	14,068
Minneapolis, Minn.	2,554	15,006	164,738	Shenandoah, Va.	4,292	5,310	16,859
Mobile, Ala.	20,515	32,034	81,076	Shenandoah, Va.	1,937	2,951	15,944
Moline, Ill.	2,028	4,165	12,000	Shreveport, La.	1,728	4,607	11,579
Muncie, Ind.	6	2,992	11,345	Sioux City, Iowa.	767	3,401	57,800
Muscatine, Iowa	2,540	6,718	11,454	Somerville, Mass.	8,540	11,655	40,152
Muskegon, Mich.	1,450	6,092	22,702	South Bend, Ind.	1,652	7,256	21,819
Nashua, N. H.	5,820	10,513	19,311	Spartanburg, S. C.	1,652	7,256	21,819
Nashville, Tenn.	10,165	25,865	76,168	Springfield, Ill.	4,733	17,264	24,963
Nebraska City, Neb.	1,915	6,050	11,494	Springfield, Mass.	11,766	26,701	34,179
New Albany, Ind.	8,181	15,396	21,059	Springfield, Mo.	415	5,555	21,850
Newark, N. J.	88,694	163,059	191,839	Springfield, Ohio.	8,708	12,652	14,450
Newark, Ohio.	3,654	14,270	40,733	Stamford, Conn.	5,900	9,714	15,700
New Bedford, Mass.	16,443	21,890	40,733	Steubenville, Ohio.	6,149	8,197	13,384
New Brighton, N. Y.	7,195	16,423	19,007	Stillwater, Minn.	621	4,124	11,260
New Britain, Conn.	3,029	9,480	19,007	Stockton, Cal.	8,679	10,066	14,424

CENSUS OF CITIES.	1850.	1870.	1890.
Superior, Wis.	584 *		11,983
Syracuse, N. Y.	22,271	28,081	88,148
Tacoma, Wash.		73	36,006
Taunton, Mass.	10,441	18,629	25,448
Terre Haute, Ind.	4,051	16,108	80,217
Toledo, Ohio.	8,829	81,584	81,434
Topeka, Kan.	759 *	5,790	31,007
Trenton, N. J.	6,461	22,874	57,458
Troy, N. Y.	28,785	46,465	60,956
Utica, N. Y.	17,565	28,894	44,007
Vicksburg, Miss.	8,678	12,443	13,373
Waco, Tex.		8,008	14,445
Waltham, Mass.	4,464	9,065	18,707
Warwick, R. I.	7,740	10,453	17,761
Washington, D. C.	40,001	109,199	280,392
Waterbury, Conn.	5,137	10,826	28,646
Watertown, N. Y.	7,201	9,836	14,725
West Bay City, Mich.		7,364	12,981
West Troy, N. Y.	7,564	10,603	12,967
Weymouth, Mass.	5,369	9,070	10,566
Wheeling, W. Va.	11,435	19,280	35,013
Wichita, Kan.		689	23,583
Wilkesbarre, Pa.	2,228	10,174	87,718
Williamsport, Pa.	1,615	16,080	27,132
Wilmington, Del.	18,979	80,841	61,431
Wilmington, N. C.	7,964	18,446	20,056
Winona, Minn.	2,464 *	7,192	18,208
Woburn, Mass.	3,956	8,560	18,499
Woonsocket, R. I.		11,527	20,880
Worcester, Mass.	17,019	41,105	84,055
Yonkers, N. Y.	4,160	18,857	32,088
York, Pa.	1,960	11,068	20,798
Youngstown, Ohio.	2,802	8,075	83,220
Zanesville, Ohio.	7,929	10,011	21,009

Population.—For enumeration purposes, the United States and the Territories were divided into 175 districts. For each of these districts a supervisor was appointed by the President, on the recommendation of the Secretary of the Interior. These supervisors were authorized to appoint a sufficient number of enumerators in their respective districts, such persons to be paid at the rate of 2 cents for each name recorded, and the same for each birth and death reported. Fifteen cents was allowed for each farm, 20 cents for each industrial establishment, and 5 cents for each surviving soldier or sailor of the late war. For each living inhabitant in sparsely settled localities, enumerators were allowed 3 cents. For farms and industrial establishments in similar localities, enumerators were entitled to receive 20 and 30 cents respectively. It was the duty of each enumerator to visit personally each dwelling house in his subdivision, and each family therein, and each individual living out of a family in any place of abode, and by inquiry made of the head of such family, or of the member thereof deemed most credible and worthy of trust, or of such individual living out of a family, to obtain each item of information and all the particulars required by the act. In case no person were found at the usual place of abode of such family or individual living out of a family competent to answer the inquiries, it became lawful for the enumerator to obtain the required information, as nearly as might be practicable, from the persons living nearest to such place of abode. Provision was made that every person more than twenty years of age neglecting or refusing to render a true account to the best of his or her knowledge of the various particulars required by law should be convicted of misdemeanor and fined a sum not exceeding \$100. Further, "every president, treasurer, secretary, agent, director, or other officer of every corporation from which answers to any

of the schedules provided for by this act are herein required, who shall, if thereto requested by the superintendent, supervisor, or enumerator, willfully neglect or refuse to give true and complete answers to any inquiries authorized by this act, or shall willfully give false information, shall be guilty of a misdemeanor, and on conviction thereof shall be fined not exceeding \$10,000, to which may be added imprisonment for a period not exceeding one year."

It is said in the report of the Superintendent of Census, dated Dec. 31, 1890, that two months and nineteen days after the beginning of the enumeration, the official returns by counties and precincts of the State of Washington were telegraphed from the Census Office to the Governor for the use of the State Legislature, then convening, for the purpose of apportioning representation in that body. By Oct. 20 the population of all the Pacific States—California, Oregon, and Washington—had been announced. On Nov. 10, 1890, the last returns of the Eleventh Census were received from the first supervisor's district of Florida. But results had been telegraphed from that district on Oct. 21, immediately after a count of the schedules. On June 28, 1889, the population of the District of Columbia was published. Twenty days later, announcement was made of the population of the city of New York. The result of the census, as taken in the city of Philadelphia, was announced on Aug. 6. During the same month the first count of Delaware, Idaho, Rhode Island, and Washington was made known. The population of Colorado, Connecticut, Maine, Massachusetts, Montana, Nevada, Vermont, and the Territories of Arizona and Utah were fully ascertained and made public in September, results from the remainder of the States and Territories being announced during the following month.

The population of the United States on June 1, 1890, as shown by the final count of persons and families, exclusive of white persons in Indian Territory, Indians on reservations, and Alaska, was announced as 62,622,250; including these persons, it was stated the population would probably reach 63,000,000. In 1880 the population was 50,155,783. The absolute increase of the population in the ten years intervening was 12,466,467, and the percentage of increase was 24.86. In 1870 the population was stated as 38,558,371. According to these figures, the absolute increase in the decade between 1870 and 1880 was 11,597,412, and the percentage of increase was 30.08.

Upon their face [says the Superintendent of Census in his official bulletin on population] these figures show that the population has increased between 1880 and 1890, 869,655 more than between 1870 and 1880, while the rate of increase has apparently diminished from 30.08 to 24.86 per cent. If these figures were derived from correct data they would be disappointing. Such a reduction in the rate of increase, in the face of the heavy immigration during the past ten years, would argue a diminution in the fecundity of the population or a corresponding increase in its death rate. These figures are, however, easily explained when the character of the data used is understood. It is well known, the fact having been demonstrated by extensive and thorough investigation, that the census of 1870 was grossly deficient in the Southern States, so much so as not only to give an exaggerated rate of increase of the population be-

tween 1870 and 1880 in these States, but to effect very materially the rate of increase in the country at large.

So many expressions of disappointment at the general result were made public after announcement of the final count that the Superintendent of Census deemed it necessary to explain, in his bulletin No. 16, in what way the apparent falling short of numbers could be accounted for. For some months prior to the taking of the Eleventh Census the estimates as to probable population of the United States and the Territories in 1890 reached a maximum of 65,000,000. These estimates, as a rule, were not based—in fact, could not well be based—upon any close knowledge of the facts. An official view must always be of the greatest value in dealing with any question of this kind. The Superintendent says:

It is fair to assume that the rates of increase of population of the Southern States between 1860 and 1870 and between 1870 and 1880 were related to one another in a proportion similar to the corresponding rates in the Northern States during the same periods. In the term "Southern States" is here included the two Virginias, the two Carolinas, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, Tennessee, and Kentucky. The census of 1870 is known, or is suspected to be, deficient in all these States. In the other States and Territories there is no suspicion of incompleteness. The population of the Southern States in 1860, 1870, and 1880 was as follows: 1860, 10,259,016; 1870, 11,250,411; 1880, 15,357,393. The population of the other States and Territories in 1860, 1870, and 1880 was as follows: 1860, 21,184,305; 1870, 27,307,960; 1880, 34,898,390. The rate of increase in these other States and Territories was 28.9 per cent. between 1860 and 1870, and 27.8 per cent. between 1870 and 1880. These two rates are so nearly equal that in extending them to the Southern States they may be regarded as identical; in other words, it may be assumed that the rate of increase in the Southern States between 1860 and 1870 and between 1870 and 1880 were the same. Classified as white and colored, the population of the Southern States was as follows: 1860, white 6,366,703, colored 3,890,037; 1870, white 7,067,213, colored 4,179,222; 1880, white 9,592,568, colored 5,657,635. The increase of the white between 1860 and 1880 was 50.67 per cent., or at a uniform rate for each ten years of 22.75 per cent. The increase of the colored between 1860 and 1880 was 45.48 per cent., or at the rate of 20.6 per cent. for each ten years. Applying these rates of increase respectively to the white and colored population in 1860, there results as the approximate white population in 1870, 7,815,128, and for the colored, 4,691,385. These results are in excess of the figures returned by the census of 1870, in the case of the white 747,915, and in case of the colored 512,163, a total of 1,260,078, which may be assumed as approximately the extent of the omissions by the faulty census of 1870. The total population in 1870 was therefore approximately 39,818,449, instead of 38,558,371.

Assuming these figures to represent approximately the true population in 1870, the rates of increase would stand at follow: 1860, 31,443,321; 1870, 39,818,449, or 26.6 per cent.; 1880, 50,155,783, or 25.9 per cent.; 1890, 62,622,250, or 24.8 per cent. Omitting from consideration those States in which the census of 1870 is known or is presumed to have been faulty, the rate of increase between 1870 and 1880 in the remaining States has been very nearly maintained in the decade between 1880 and 1890. Referring to the principal table of the bulletin, the census of 1870 is known or presumed to have been deficient in nearly all the States of the South Atlantic and Southern Central divisions, while in the North Atlantic, Northern Central, and Western divisions no evidence of incompleteness has been detected. The population of these three last-

named divisions in 1870, 1880, and 1890, the absolute increase for the two decades, and the rate of increase is as follows: 1870, 26,270,351; 1880, 33,639,215—increase 7,368,864, or 28.1 per cent.; 1890, 42,791,437—increase 9,152,222, or 27.2 per cent. It will be seen that the absolute increase between 1880 and 1890 exceeded that between 1870 and 1880 by 1,783,858, and that the proportional increase was but 0.9 per cent.

Numerous complaints and calls for re-enumeration were received at the Census Office during the three months following the announcement of results in connection with the count of large cities. It is remarked in one of the official reports that so long as the decennial census of the United States has to be taken under the social conditions that have prevailed during the past quarter of a century—conditions involving great movements of population, the sudden uprising and rapid growth of numerous communities, and a perpetual struggle for commercial and political supremacy between different sections of our common country—so long will a census without such complaints be an impossibility. Nearly fifty thousand enumerators were employed, and "only an infinitesimal per cent. have had their work so discredited as either to necessitate its being done again by others, or even to call for the adoption of any special measure for completing or otherwise amending it." No entire State or Territory has been re-enumerated. At the time of the taking of the Eleventh Census the population of the United States and Territories was included within the boundaries of 2,782 counties. According to the report of the superintendent at the end of the year 1890, Multnomah County, Oregon, was the only one for which an entire recount had been found necessary or had been requested. Six sevenths of the population of this county lies within the limits of the cities of Portland, East Portland, and Albina. The recount showed a county population of 75,275, against 61,773 at the enumeration in June. It was said officially after the recount that the schedules of the re-enumeration contained so many evidences of dishonest work as seriously to impeach its integrity when taken in connection with many suspicious circumstances. Considering the enormous number of places, large and small, included in the work of enumerators, the number from which discrepancies have been reported shows a remarkably small percentage of errors. In a recount of twenty-four enumeration districts of Kansas City, Mo., a falling off of about 1,200 persons was shown. At Nashville, Tenn., a census taken under the direction of the compilers of the local directory showed a variation on comparison with the official census figures of 153. A State census of Louisiana was completed on the day when the work of the Federal census began. Comparison of results showed a variation of 2,670.

As an illustration of the advance in means of communication for census purposes between the States, the fact may be mentioned that in 1850 the enumeration was begun June 1, but the first returns were not received until Aug. 29 of that year, and the final returns (from California) were not received until Feb. 17, 1852, exactly one year eight months and seventeen days after the commencement of the enumeration.

No official statement appears in the population volume of the Eighth Census of the dates

when returns were received. The enumeration for 1870 was nearly completed Jan. 9, 1871, but not actually so until Aug. 23 of that year, because the last schedules were not received from the enumerators until that time, more than a year after the commencement of the enumeration. The Tenth Census was practically completed March 4, 1881, the final official count following soon afterward. The last returns of the Eleventh Census received at the Census Office, as elsewhere stated, were from the first supervisor's district of Florida, Nov. 10.

The official tabular statement of the final count, by States and Territories, is given by sections or divisions—viz: 1. Northern Atlantic division; 2. South Atlantic division; 3. Northern Central division; 4. Southern Central division; 5. Western division. This grouping is given to aid in bringing out certain characteristic features in the development of the States. In the North Atlantic section manufacturing industries predominate, causing unusual development of urban population, more than half the inhabitants being grouped in cities. Agriculture is the principal industry of the Northern Central States, manufactures being second in importance. The South Atlantic and Southern Central sections are still almost entirely agricultural. Agriculture, mining, and grazing are the leading industries in the Western States and Territories. The count as declared by divisions is as follows:

DIVISIONS.	1890.	1880.	Increase.
North Atlantic division....	17,401,545	14,507,407	2,894,138
South Atlantic division....	8,867,929	7,597,197	1,260,732
Northern Central division....	22,862,279	17,364,111	4,998,168
Southern Central division....	10,972,893	8,919,371	2,053,522
Western division.....	8,027,618	1,767,697	1,259,916

From the figures shown above for the different divisions it will readily be seen that their ranking in 1880 and 1890 is the same. The Northern Central division heads the list. Agriculture predominates in that group. Second in rank comes the North Atlantic division, conspicuous for manufactures. The Southern Central division stands third, with the South Atlantic and Western divisions fourth and fifth respectively. The rank of these divisions in the matter of population stood the same in 1870 as in the two subsequent censuses. The percentages of increase from 1880 to 1890 are as follow: Western division, 71.27; Northern Central division, 28.78; Southern Central division, 23.02; North Atlantic division, 19.95; South Atlantic division, 16.59. The percentage of increase for the United States and Territories from 1880 to 1890 is 24.86.

As the grouping of States and Territories in five natural divisions will be used frequently when reference is made to census matters, it will be useful to show which of the States and Territories are included in each of these several divisions:

North Atlantic Division.—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania.

South Atlantic Division.—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

Northern Central Division.—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

Southern Central Division.—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Indian Territory, Oklahoma, Arkansas.

Western Division.—Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Alaska, Washington, Oregon, California.

Transportation.—Results have been made known as to rapid transit in cities, changes in floating equipments on the lakes since 1886, freight traffic on the lakes and railways of the New England States. On Dec. 31, 1889, 476 cities had rapid transit, and the number of street railways in operation was 807.

Rank.—The rank of the States and Territories in population in 1890, compared with the relative position of each in 1880, 1870, 1860, and 1850, can readily be noted from the statement given below:

STATES AND TERRITORIES.	1890.	1880.	1870.	1860.	1850.
Alabama.....	17	17	16	13	12
Alaska.....	51	..	..	..	..
Arizona.....	49	44	46	..	..
Arkansas.....	24	25	26	25	26
California.....	22	24	24	26	29
Colorado.....	81	85	41	88	..
Connecticut.....	29	28	25	24	21
Delaware.....	43	38	35	32	30
District of Columbia.....	39	36	34	35	39
Florida.....	32	34	33	31	31
Georgia.....	12	13	12	11	9
Idaho.....	46	46	44	..	..
Illinois.....	3	4	4	4	11
Indian Territory.....	41	..	..	..	..
Indiana.....	8	6	6	6	7
Iowa.....	10	10	11	20	27
Kansas.....	19	20	29	38	..
Kentucky.....	11	8	8	9	8
Louisiana.....	25	27	21	17	18
Maine.....	30	27	23	22	16
Maryland.....	27	23	20	19	17
Massachusetts.....	6	7	7	7	6
Michigan.....	9	9	13	16	20
Minnesota.....	29	26	28	30	36
Mississippi.....	21	18	18	14	15
Missouri.....	5	5	5	8	13
Montana.....	45	45	43	..	..
Nebraska.....	26	30	36	39	..
Nevada.....	50	45	40	41	..
New Hampshire.....	33	31	31	27	22
New Jersey.....	18	19	17	21	19
New Mexico.....	41	41	37	34	32
New York.....	1	1	1	1	1
North Carolina.....	16	15	14	12	10
North Dakota.....	42	40	45	42	..
Ohio.....	4	3	3	3	3
Oklahoma.....	47	..	..	..	..
Oregon.....	38	37	38	36	34
Pennsylvania.....	2	2	2	2	2
Rhode Island.....	75	33	32	29	28
South Carolina.....	23	21	22	18	14
South Dakota.....	37	40	45	42	..
Tennessee.....	13	12	9	10	5
Texas.....	7	11	19	23	25
Utah.....	40	39	39	37	35
Vermont.....	36	32	30	28	28
Virginia.....	15	14	10	5	4
Washington.....	34	42	42	40	..
West Virginia.....	28	29	27	..	..
Wisconsin.....	14	16	15	15	24
Wyoming.....	48	47	47	..	..

In 14 States and Territories a census was taken under a State law or Territorial provision in 1885. A State census was taken in Michigan in 1884. A very useful and interesting table included in census bulletin No. 16 is here reproduced, in order that the semi-decennial increase and percentage of increase for the States and Territories mentioned between 1880 and 1890 may be observed:

UNITED STATES CENSUS.

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STATES.	POPULATION.			INCREASE.		PERCENTAGE OF INCREASE.	
	1890.	1885.	1880.	1880-'85.	1885-'90.	1880-'85.	1885-'90.
Colorado.....	412,198	243,910	194,327	49,583	168,288	25.5	69.0
Dakota.....	511,527	415,610	385,177	29,433	95,917	207.5	23.1
Florida.....	391,422	342,551	280,493	78,058	48,871	27.1	14.3
Iowa.....	1,911,896	1,753,960	1,624,615	129,365	157,916	8.0	9.0
Kansas.....	1,427,096	1,298,580	996,096	272,484	188,566	27.4	12.5
Massachusetts.....	2,238,943	1,942,141	1,783,085	159,056	296,892	8.9	15.3
Michigan.....	2,069,889	1,853,658	1,636,937	216,721	240,281	13.2	13.0
Minnesota.....	1,301,826	1,117,798	780,773	337,025	184,028	43.2	16.5
Nebraska.....	1,058,910	740,645	452,402	288,243	318,265	63.7	43.0
New Jersey.....	1,444,933	1,278,938	1,121,116	146,917	166,900	13.0	13.1
New Mexico.....	153,593	134,141	119,565	14,576	19,452	12.2	14.5
Oregon.....	318,767	194,150	174,768	19,382	119,617	11.1	61.6
Rhode Island.....	345,596	304,284	275,531	27,553	41,222	10.0	13.5
Washington.....	349,390	129,438	75,116	54,322	219,352	72.8	170.0
Wisconsin.....	1,656,880	1,568,418	1,315,497	247,916	129,467	18.8	7.9

In one State, Kansas, a census has been taken every year since 1885 with the following results (the figures for 1880 are given to facilitate references): 1880, Federal census, 996,096; 1885, State census, 1,268,530; 1886, State census, 1,406,738; 1887, State census, 1,514,578; 1888, State census, 1,518,552; 1889, State census, 1,464,914; 1890, Federal census, 1,427,096.

The rate of increase between 1870 and 1880 in Maine, New Hampshire, and Vermont has not

quite been maintained, "probably due to the fact of a large migration of the farming population to the far West and manufactures not having yet assumed sufficient prominence." The decline in the rate of increase in Ohio, Indiana, Iowa, Missouri, and Illinois (not considering Chicago) is noticeable. Ohio has fallen from 20 to 15 per cent.; Indiana from 18 to 11; Iowa 36 to 18; Missouri 26 to 24; Illinois from 14.9 to 5.9 per cent. "In these States the agricultural industry,

STATES AND TERRITORIES.*	Year.	Population.	PUBLIC SCHOOLS.			
			TEACHERS.		PUPILS.	
			Male.	Female.	Male.	Female.
Arizona.....	1890	40,440	48	78	2,104	2,108
	1890	59,629	86	147	4,237	3,501
California.....	1880	864,694	1,173	2,838	83,107	78,870
	1890	1,208,180	1,102	4,272	114,064	107,092
Connecticut.....	1880	622,700	573	2,146	61,750	56,839
	1890	746,255	460	2,766	62,946	63,550
District of Columbia.....	1880	177,624	33	392	12,799	13,640
	1890	280,392	92	633	17,811	19,565
Louisiana.....	1880	989,946	827	886	41,890	89,122
	1890	1,118,887	1,227	1,116	63,617	60,773
Maine.....	1880	648,906	1,344	3,453	73,547	77,264
	1890	661,086	1,412	4,668	68,749	70,930
Maryland.....	1880	934,943	1,295	1,743	77,229	72,752
	1890	1,042,590	1,065	2,761	94,220	90,681
Massachusetts.....	1880	1,783,085	923	6,413	157,133	150,271
	1890	2,238,943	1,017	9,047	188,735	182,757
Montana.....	1880	39,159	62	105	2,405	2,262
	1890	132,159	121	428	8,564	8,248
New Hampshire.....	1880	346,991	305	2,225	35,521	31,149
	1890	376,530	296	2,808	39,883	28,390
North Carolina.....	1880	1,299,759	4,543	1,723	134,776	121,646
	1890	1,617,947	4,092	2,773	161,156	161,705
Ohio.....	1880	3,198,062	8,689	8,886	394,593	357,449
	1890	3,672,316	10,851	13,315	419,138	380,577
Pennsylvania.....	1880	4,222,891	9,012	10,376	491,012	470,288
	1890	5,258,074	8,382	16,111	491,491	473,958
Rhode Island.....	1880	276,531	146	756	21,481	21,008
	1890	315,506	174	1,204	27,207	26,968
South Carolina.....	1880	965,577	1,865	1,899	69,639	65,303
	1890	1,151,149	2,146	2,175	101,040	102,421
South Dakota.....	1880	98,269	.....	.....	.....	.....
	1890	328,808	1,292	3,064	35,311	30,839
Vermont.....	1880	335,286	731	1,866	37,300	35,937
	1890	332,422	598	3,872	38,677	31,931
Virginia.....	1880	1,512,565	8,046	1,887	113,027	107,706
	1890	1,655,080	3,119	4,404	171,773	170,496
Wisconsin.....	1880	1,315,497	2,027	4,573	155,674	143,840
	1890	1,686,880	2,388	9,649	178,404	171,958
Wyoming.....	1880	20,780	31	39	1,521	1,846
	1890	60,703	68	201	8,492	8,560
Totals.....	1880	20,479,992	86,113	51,594	1,504,908	1,846,210
	1890	23,923,822	89,558	87,024	2,279,015	2,199,464

* This and all other tables used, together with the statements in text of facts and figures, to show results of the eleventh census inquiry, are from bulletins issued from time to time during the past year from the Census Bureau. The statements, whether in text or tables, have been compiled by the several special agents from State, municipal, and other official returns made over the signature, in every case, of responsible officers. These officers not infrequently furnish revised exhibits, after a bulletin has been published; hence the announcement made by the Superintendent of Census that all special inquiry statements in bulletin form are subject to revision for the final volumes.

which is still the prominent one, has begun to decline, owing to the sharp competition of Western farms. The farming population has migrated westward, and the growth of manufactures is not yet sufficiently rapid to repair these losses." This sentence is quoted from the official bulletin on population. The following paragraph, taken from the same publication, contains facts pregnant with interest for those who are anxious to know the causes of fluctuations in the Northern Central group:

During the past ten years the population of Dakota, considering the two States of North Dakota and South Dakota together, has increased from 135,177 to 511,527, or 278 per cent.; Nebraska from 452,402 to 1,058,910, or 134 per cent.; and Kansas from 990,096 to 1,427,096, or 43 per cent. This increase has not, however, continued uniformly throughout the decade. In 1885 Dakota contained 415,610 inhabitants, or more than four fifths of its present population. Nebraska contained 740,645 inhabitants in the same year, thus dividing the numerical increase quite equally between the two halves of the decade, but leaving the greater percentage of increase in the first half. In the same year Kansas by its State census had 1,268,530 inhabitants, showing that nearly two thirds of the numerical gain was acquired during the first half of the decade. The industries of these States are almost purely agricultural, and are dependent on the supply of moisture, either in the form of rain or by irrigation. Through these States passes what is known as the sub-humid belt, a strip of country several degrees in width, in which during rainy years there is an abundance of moisture for the needs of crops, while in the years when the rainfall is below the average the supply is deficient. In this region little provision has been made for artificial irrigation, the settlers having thus far been content to depend upon rainfall. Into this region the settlers flocked in large numbers in the early years of the decade, drawn thither by the fertility of the land and by the fact that for a few years the rainfall had been sufficient for the needs of agriculture. During the past two or three years, however, the conditions of rainfall have materially changed. It has fallen decidedly below the normal, and the settlers have thereby been forced to emigrate. Thousands of families have abandoned this region and gone to Oklahoma and the Rocky Mountain region. This migration is well shown in the progress of Kansas, as indicated by its annual censuses. These censuses show a rapid increase in population from 1880 up to 1887; 1888 shows but a slight increase over 1887, while 1889 shows a reduction in the population, leading up to the further reduction shown by the Federal census in 1890.

A diminution in the rate of increase is noticeable throughout the South Atlantic and Southern Central States, partly due to migration westward, while immigration has been but slight. It is said that imperfections of the ninth census had much to do with the apparent falling off in numbers. The rapid growth of Florida during the first half of the last decade may be noted. Yellow fever and severe frosts kept down the record of increase in 1887 and 1888. Arkansas, Texas, Wyoming, Washington, and Oregon exhibit remarkable growth of population since 1880. Concerning Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, and Oregon the official report says:

The census of Colorado in 1880 was taken on the top wave of a mining excitement, which had filled its mountains with miners, prospectors, and speculators, increasing its population enormously, especially in the mountainous country. The census of the State taken in 1885 was, on a superficial view, very sur-

prising. It showed that most of the mining counties had lost population during the five years preceding. This loss was, however, more than made up by the growth of its cities and its agricultural counties. The census of 1890 shows still further reduction of population in the mining regions of the State, and an extraordinary development of its urban population and its farming element. New Mexico, Arizona, and Utah show rates of increase which are small when the sparsely settled condition of these Territories is considered, while Nevada shows an absolute diminution of population of 16,505 or 26.5 per cent., leaving it the smallest of all the States. This condition of things is a natural result of the failure of the Comstock and other mines, work upon which has practically ceased. Idaho has increased its population two and a half times. Its prosperity is mainly due to its mines, although people are now turning to agriculture in considerable numbers. The growth of Washington has been phenomenal the population in 1889 being nearly five times that of 1880. As is shown by the State census taken in 1885, this growth has been almost entirely during the last five years of the decade. The inducements which have attracted settlers are in the main its fertile soil and its ample rainfall, which enable farming to be carried on without irrigation over almost the entire State. The growth of Oregon, though less rapid, has been at a rate of nearly 80 per cent. during the past decade. The numerical increase has been 138,999, of which over four fifths has been acquired during the past five years. The additions to its population are mainly in the valleys of the Columbia and Willamette rivers.

CITY.	Teachers.	PUPILS.	
		White.	Colored.
Akron, Ohio	100	4,820	87
Albany, N. Y.	278	14,389	50
Alexandria, Va.	30	1,077	761
Allentown, Pa.	74	4,862	.....
Alton, Ill.	28	1,375	140
Altoona, Pa.	100	5,840	45
Appleton, Wis.	44	1,903	3
Asheville, N. C.	22	1,111	385
Atchison, Kan.	50	1,639	543
Atlanta, Ga.	135	5,546	2,384
Auburn, Me.	59	1,820	.....
Auburn, N. Y.	102	3,479	75
Aurora, Ill.	72	3,193	41
Austin, Tex.	68	1,912	848
Baltimore, Md.	1,187	42,101	6,749
Baton Rouge, La.	10	814	219
Beatrice, Neb.	32	1,868	24
Belleville, Ill.	50	2,401	29
Béldeford, Me.	51	1,930	.....
Binghamton, N. Y.	102	4,722	41
Bradford, Pa.	44	1,717	16
Prockton, Mass.	85	3,800	2
Brooklyn, N. Y.	1,958	109,086	1,686
Buffalo, N. Y.	715	34,408	175
Bute City, Mont.	20	2,425	22
Cairo, Ill.	50	929	788
Canton, Ohio	80	4,241	12
Carbondale, Pa.	32	1,740	.....
Cedar Rapids, Iowa	84	3,669	51
Charleston, S. C.	110	2,803	2,184
Chattanooga, Tenn.	74	2,573	1,963
Chelsea, Mass.	103	5,289	100
Chester, Pa.	65	2,985	383
Cheyenne, Wyo.	23	980	18
Clinton, Iowa	74	2,648	44
Cobles, N. Y.	75	2,619	.....
Columbia, Pa.	33	1,760	123
Columbia, S. C.	27	857	867
Concord, N. H.	88	4,198	4
Council Bluffs, Iowa	75	8,360	19
Cumberland, Md.	26	1,789	185
Dallas, Tex.	73	8,785	900
Danville, Ill.	58	2,699	50
Davenport, Iowa	119	4,578	56
Dayton, N. H.	40	1,514	7
Des Moines, Iowa	93	4,064	37
Duluth, Minn.	79	3,191	6
Easton, Pa.	60	2,473	47
East St. Louis, Ill.	89	1,450	144
Elgin, Ill.	57	2,649	29

CITY.	Teachers.	POPUL.		CITY.	Teachers.	POPUL.	
		White.	Colored.			White.	Colored.
Elkhart, Ind.	46	2,161	4	Poughkeepsie, N. Y.	72	2,524	80
Elmira, N. Y.	98	4,228	101	Pueblo, Col.	62	2,860	49
Evanston, Ind.	162	7,594	882	Quincy, Ill.	61	3,805	190
Everett, Mass.	42	1,985	13	Raleigh, N. C.	35	1,043	1,375
Erie, Pa.	154	5,400	40	Reading, Pa.	180	8,587	100
Fall River, Mass.	235	11,112	12	Richmond, Ind.	63	2,403	226
Fond-du-Lac, Wis.	47	2,260	84	Richmond, Va.	230	6,751	4,968
Fort Scott, Kan.	41	2,227	411	Rockledge, N. Y.	18	1,424	609
Fort Wayne, Ind.	114	4,350	14	Rock Island, Ill.	43	16,955	69
Fort Worth, Tex.	51	2,337	592	Rome, N. Y.	41	2,307	34
Galesburg, Ill.	53	2,156	152	Rutland, Vt.	29	1,211	10
Gloversville, N. Y.	39	2,488	19	St. Joseph, Mo.	192	6,199	674
Hagerstown, Md.	33	1,488	183	St. Louis, Mo.	1,174	53,294	5,022
Hamilton, Ohio	47	2,229	70	Sandusky, Ohio.	66	2,134	95
Hannibal, Mo.	45	1,914	524	San Francisco, Cal.	859	42,706	720
Harrisburg, Pa.	124	6,343	470	Saratoga Springs, N. Y.	47	2,204	69
Hastings, Neb.	28	1,534	16	Savannah, Ga.	47	2,945	1,442
Hazleton, Pa.	34	1,809	.....	Scranton, Pa.	23	10,398	25
Helena, Mont.	33	1,560	25	Sedalia, Mo.	64	2,511	444
Honolulu, W. Y.	40	2,200	6	Shamokin, Pa.	46	2,805	22
Huntington, W. Va.	39	1,824	182	Shenandoah, Pa.	43	2,634	.....
Indianapolis, Ind.	814	14,709	1,477	Shreveport, La.	19	810	412
Ithaca, N. Y.	37	1,888	33	Sioux Falls, S. Dak.	35	1,438	8
Jackson, Mich.	45	2,042	67	Somerville, Mass.	142	7,137	20
Jacksonville, Fla.	67	1,079	1,480	South Bend, Ind.	57	2,788	13
Jeffersonville, Ind.	43	2,131	374	Springfield, Mo.	50	3,960	552
Kalamazoo, Mich.	70	3,214	75	Springfield, Ohio.	113	4,400	608
Kansas City, Mo.	287	15,098	2,110	Springfield, Mass.	173	6,056	260
Key West, Fla.	28	637	508	Springfield, Ill.	80	3,159	500
Knoxville, Tenn.	56	2,525	780	Tacoma, Wash.	50	5,551	5
Los Angeles, Cal.	39	4,433	9	Terre Haute, Ind.	120	4,758	254
La Fayette, Ind.	59	7,069	80	Topeka, Kan.	120	5,134	1,177
Lancaster, Pa.	78	4,579	67	Utica, N. Y.	170	6,703	17
Lansing, Mich.	88	2,202	60	Vicksburg, Miss.	27	680	786
Lawrence, Mass.	107	6,276	9	Waco, Tex.	48	1,837	800
Leavenworth, Kan.	57	2,726	664	Weymouth, Mass.	52	2,186	16
Lewiston, Me.	69	2,221	7	Wichita, Kan.	90	4,651	153
Lexington, Ky.	62	2,008	867	Williamsport, Pa.	88	4,983	215
Little Rock, Ark.	57	2,281	1,580	Woburn, Mass.	26	2,515	14
Loganport, Ind.	40	2,048	25	Woonsocket, R. I.	46	2,221	.....
Los Angeles, Cal.	169	8,116	172	Yonkers, N. Y.	68	3,354	30
Louisville, Ky.	430	17,795	4,829	York, Pa.	62	3,117	109
Lowell, Mass.	205	11,184	15	Total.	26,324	1,245,722	86,682
Lynchburg, Va.	62	1,677	1,673				
Lynn, Mass.	166	8,550	.....			
Macon, Ga.	48	1,921	521				
Mahogany City, Pa.	31	1,939	.....			
Medford, Mass.	46	2,179	7				
Menominee, Mich.	30	1,423	.....			
Meriden, Conn.	87	4,341	14				
Michigan City, Ind.	24	1,132	5				
Middletown, N. Y.	39	1,898	48				
Mobile, Ala.	65	2,559	1,150				
Moline, Ill.	44	2,066	30				
Muncie, Ind.	39	1,951	84				
Muskegon, Mich.	101	5,171	.....			
Nashua, N. H.	73	2,792	7				
Nashville, Tenn.	157	6,709	2,766				
New Albany, Ind.	60	2,863	436				
Newark, Ohio.	56	2,545	48				
Newburyport, Mass.	38	1,724	11				
New Castle, Pa.	14	2,224	18				
New Haven, Conn.	319	15,063	510				
New Orleans, La.	422	17,766	5,380				
Newport, Ky.	56	3,198	75				
New York, N. Y.	3,706	196,333	1,612				
Norfolk, Va.	31	1,317	1,258				
Norristown, Pa.	56	2,433	72				
North Adams, Mass.	67	2,619	12				
Northampton, Mass.	71	2,500	9				
Ogden, Utah.	22	1,339	8				
Oil City, Pa.	56	2,063	25				
Omaha, Neb.	2-2	12,291	388				
Oshkosh, Wis.	62	7,508	.....			
Oswego, N. Y.	72	3,700	9				
Ottumwa, Iowa	50	2,420	42				
Pawtucket, R. I.	85	5,004	15				
Pembody, Mass.	41	2,129	.....			
Pensacola, Fla.	28	677	796				
Peoria, Ill.	112	7,148	113				
Petersburg, Va.	48	1,391	1,824				
Philadelphia, Pa.	2,697	112,713	3,671				
Pittsfield, Mass.	75	3,320	51				
Plainfield, N. J.	40	1,927	40				
Port Huron, Mich.	40	2,230	4				
Portsmouth, Va.	23	1,088	617				
Portsmouth, Ohio.	16	2,020	188				
Portland, Me.	167	6,150	17				
Pottsville, Pa.	52	2,435	27				

Alaska.—The announcement of the final count stated that the population of the United States was 62,622,250 on June 1, 1890, exclusive of white persons in Indian Territory, Indians on reservations, and Alaska. Early in February, 1891, a bulletin was published, giving statistics of population in Alaska. The official count by special agents gives a total of 21,329, including 3,922 white males, 497 white females, 82 black males, 770 "mixed" males, 798 "mixed" females, 7,158 native males, 6,577 native females, and 2,125 Chinese males. It is reported that, of this number, 2,125 Chinese and 1,901 white fishermen were temporarily employed in the salmon canneries at the time of enumeration, while, in what is termed the seventh district, 400 white and 80 colored men were temporarily employed in the whaling industry. The special agent in charge of the census inquiry in Alaska remarks in his report that he expects an increase, on completion of the enumeration, of 8,400 Eskimo. This would bring the total to 30,329. For enumeration purposes, the Territory was divided into seven districts. It is reported that, out of a population of 7,636 in the first district, there are 564 native born males, 405 foreign born males, and 69 "transient" males of voting age. It is also remarked that the number of possible voters in other districts of Alaska, covering an area of over 500,000 square miles, will not exceed five or six hundred at the most.

Indian Territory and Reservations.—At the end of January, 1891, it was officially an-

CONVICTS.

STATES AND TERRITORIES.	Total.	DESCRIPTION.			
		White, native.	White, foreign born.	White, nativity unknown.	Colored.
Alabama.....	1,086	148	11	..	927
Arizona.....	144	51	66	..	27
Arkansas.....	832	311	11	1	509
California.....	2,051	1,210	558	1	282
Colorado.....	526	368	120	..	38
Connecticut.....	340	221	80	2	37
Delaware.....	.....	.....	.....	.....	.....
Florida.....	374	40	9	2	323
Georgia.....	1,749	161	6	..	1,562
Idaho.....	102	58	36	..	8
Illinois.....	2,057	1,361	433	5	258
Indiana.....	1,416	1,117	95	8	196
Iowa.....	628	487	89	1	46
Kansas.....	918	63	87	1	197
Kentucky.....	1,285	367	26	122	730
Louisiana.....	856	108	21	..	727
Maine.....	170	133	36	1	..
Maryland.....	690	245	48	2	394
Massachusetts.....	1,580	1,072	885	2	73
Michigan.....	1,108	785	238	2	63
Minnesota.....	432	258	156	2	16
Mississippi.....	429	38	1	..	390
Missouri.....	1,701	1,004	134	2	561
Montana.....	225	152	52	1	20
Nebraska.....	391	269	80	1	41
Nevada.....	96	41	34	..	21
New Hampshire.....	116	82	34	..	..
New Jersey.....	1,537	885	445	2	227
New Mexico.....	112	80	27	..	5
New York.....	8,190	5,302	2,280	1	607
North Carolina.....	1,422	230	5	..	1,187
North Dakota.....	65	39	23	..	3
South Dakota.....	97	66	26	..	5
Ohio.....	1,672	1,148	183	1	320
Oregon.....	362	211	81	..	40
Pennsylvania.....	2,361	1,579	480	4	298
Rhode Island.....	122	87	24	..	11
South Carolina.....	806	54	1	..	751
Tennessee.....	1,484	379	31	9	1,082
Texas.....	3,319	1,278	414	12	1,615
Utah.....	180	99	75	..	6
Vermont.....	91	74	16	1	..
Virginia.....	1,167	195	10	1	961
Washington.....	251	152	72	..	27
West Virginia.....	278	186	8	..	84
Wisconsin.....	530	311	196	..	23
Wyoming.....	10	8	1	..	1
Totals.....	45,233	23,084	7,267	185	* 14,687

* Includes 10,889 pure negroes; 3,378 mulattoes, or negroes of mixed blood; 240 Chinese; and 180 Indians.

noticed that the total Indian population of the United States, exclusive of Alaska, but including 32,567 taxed or taxable Indians counted in the general census, was 249,273. From this it will be seen that the total of Indians to be added to the figures given in the final count is 216,706. Of the taxed or taxable Indians, 98 per cent. do not live on reservations. Of the total given of these Indians—i. e., 32,567—some are denominated as self-sustaining citizens. The distribution of Indians not counted in the census proper at the time of enumeration can be seen from the following statement:

On reservations or at schools under control of the Indian Office (not taxed or taxable).....	133,392
Incidentally under the Indian Office and self-supporting, the five civilized tribes, Indians and colored:	
Cherokee Indians, 25,367; colored, 4,242.....	29,609
Chickasaw Indians, 3,464; colored, 3,718.....	7,182
Choctaw Indians, 9,906; colored, 4,401.....	14,307
Creek Indians, 9,291; colored, 5,341.....	14,632
Seminole Indians, 2,389; colored, 22.....	2,411
Total.....	68,371
Deduct number of colored persons probably not members of tribes (estimated).....	3,500
Total.....	64,871

Indians other than Chickasaws in that nation.....	1,161
Indians other than Choctaws in that nation.....	527
Population of the Five Civilized Tribes:	
Indians.....	52,065
Colored Indian citizens and criminals.....	14,224
Total.....	66,289
Pueblos of New Mexico.....	5,278
Six Nations, St. Regis, and other Indians of New York, Eastern Cherokees of North Carolina.....	5,304
Under control of the War Department, prisoners of war (Apaches at Mount Vernon barracks).....	2,885
In State or Territorial prisons.....	854
Total.....	216,706

The following statistics of Indians show the number of males and females taxed or taxable and untaxed, number to whom rations are issued, etc.: Males taxed or taxable and untaxed, 82,246; males untaxed and on reservations, 65,301; females taxed or taxable and untaxed, 83,703; females untaxed and on reservations, 68,081; Indians on reservations to whom rations are issued by the United States, 34,675; self-supporting Indians on reservations (farming, herding, root-digging, horse-raising, fishing, or hunting), 98,707; total self-supporting Indians taxed or taxable and untaxed (32,567 taxed or taxable), not including the five civilized tribes, 131,274.

The number of persons other than Indians in the five civilized tribes in the Indian Territory, enumerated by Indian census enumerators, is as follows: White persons in Cherokee nation, 27,176; Chickasaw nation, 49,444; Choctaw nation, 27,991; Creek nation, 3,280; Seminole nation, 96; total, 107,987; colored persons in the five civilized tribes probably not members of the tribes (estimated), 3,500; Chinese in the Chickasaw nation, 6; total, 111,493.

The number of the male, female, and ration Indians on reservations in the States and Territories is given in the following table:

STATES.	Total.	Male.	Female.	Ration Indians.
Arizona.....	15,414	7,701	7,713	1,519
California.....	5,020	2,522	2,498	175
Colorado.....	985	484	501	433
Idaho.....	8,610	1,791	1,849	409
Indian Territory *.....	8,708	4,119	4,589	4,908
Iowa.....	337	211	126	..
Kansas.....	1,016	588	428	..
Minnesota.....	6,283	2,931	3,352	..
Montana.....	10,336	4,978	5,358	6,768
Nebraska.....	3,751	1,865	1,886	95
Nevada.....	1,562	794	768	294
New Mexico.....	20,521	9,945	10,576	785
North Dakota.....	7,812	3,818	3,999	3,514
Oklahoma.....	5,688	2,802	2,885	51
Oregon.....	3,708	1,718	1,990	308
South Dakota.....	19,005	9,271	9,737	12,168
Utah.....	1,854	947	907	1,140
Washington.....	7,988	4,018	3,970	172
Wisconsin.....	7,915	3,969	3,946	976
Wyoming.....	1,401	884	517	901
Total.....	133,392	65,301	68,081	84,675

* Exclusive of the five civilized tribes.

The enumeration of the six nations, Saint Regis, and other Indians on reservations in the State of New York showed a total of 5,304, including 955 on the Allegany reservation, the remainder being distributed on reservations as follows: Cattaraugus, 1,574; Tonawanda, 561; Tuscarora, 455; Saint Regis, 1,033; Onondaga, 469; Oneida, 237. The Eastern Cherokee tribe of Indians live on the Eastern Cherokee reservation, North Carolina, and number 2,885, of which 1,475 are males and 1,410 females. Rations are

FINANCIAL CONDITION OF STATES, AS UNITS, DISTINCT FROM COUNTIES, CITIES, TOWNS, VILLAGES, AND OTHER MINOR CIVIL DIVISIONS.*

STATE.	Bonded debt, 1889-'90.	Floating debt, 1889-'90.	Cash and funds on hand, 1889-'90.
Alabama.....	\$9,237,700 00	\$3,175,496 10	\$120,376 80
Arkansas.....	1,963,100 00	2,382,015 00	4,182,705 99
California.....	899,500 00	2,264,950 00	3,724,895 83
Colorado.....	.....	1,867,699 82	1,392,852 86
Connecticut.....	8,740,500 00	126,705 73	2,627,151 62
Delaware.....	899,750 00	.....	67,988 04
Florida.....	1,275,000 00	.....	1,121,608 81
Georgia.....	8,406,305 00	225,000 00	566,084 14
Illinois.....	23,100 00	1,165,407 32	3,826,820 16
Indiana.....	8,640,615 22	.....	4,878,892 51
Iowa.....	.....	281,428 52	4,683,857 88
Kansas.....	801,000 00	.....	5,722,572 12
Kentucky.....	600,804 00	1,768,948 11	2,557,971 15
Louisiana.....	12,014,450 00	2,797,128 92	2,297,958 10
Maine.....	2,748,900 00	722,108 11	62,678 41
Maryland.....	10,370,766 56	.....	7,646,413 00
Massachusetts.....	28,251,287 85	.....	30,029,074 50
Michigan.....	239,992 83	5,233,920 01	1,345,189 19
Minnesota.....	4,365,000 00	.....	12,734,634 11
Mississippi.....	1,209,787 00	2,336,755 80	309,158 73
Missouri.....	8,783,000 00	3,674,000 00	4,017,350 80
Nebraska.....	.....	(a)	.....
Nevada.....	.....	1,447,940 33	.....
New Hampshire.....	2,754,600 00	168,950 28	313,848 68
New Jersey.....	1,196,800 00	400,000 00	4,829,734 83
New York.....	6,652,160 00	124,094 87	17,415,812 17
North Carolina.....	7,611,600 00	.....	73,332 21
Ohio.....	2,796,065 00	4,583,180 50	866,075 04
Oregon.....	42,972 81	.....	1,462,692 53
Pennsylvania.....	13,743,164 70	112,906 58	12,808,945 19
Rhode Island.....	1,283,000 00	17,434 84	1,358,309 15
South Carolina.....	6,375,042 41	191,500 00	93,875 03
Tennessee.....	14,986,618 31	(b)	.....
Texas.....	4,237,780 00	.....	8,487,831 27
Vermont.....	.....	148,416 37	232,562 39
Virginia.....	28,687,603 79	7,521,651 83	4,683,720 38
West Virginia.....	.....	1,0 0,243 51	.....
Wisconsin.....	.....	2,293,590 54	8,625,767 75
Total.....	\$194,500,371 88	\$43,506,218 43	\$156,443,701 04

a No report at time of publication.
b Not stated at time of publication.

not issued by the United States to these Indians. The population of the five civilized tribes, in addition to the Indians and colored, include 1,424 other Indians and Chinese and 107,987 whites.

The Indians of New Mexico, made citizens of the United States by the treaty of 1848, do not receive rations or supplies from the Government. The number of these Indians is given as 8,278. The Indians counted in the general census, 98 per cent. of whom are not on reservations, include 16,945 males and 15,622 females, distributed among 32 States and Territories, the 5 States having the largest number being California, 10,263; Michigan, 6,991; Nevada, 3,404; Washington, 2,899; and Mississippi, 1,404.

The apparent decrease in the number of Indians living on reservations since the commissioner's report of 1889 to June 30, 1890, is 1,121. The first part of the special agent's report contains a description of the manner in which the Indians viewed the taking of the census.

Some of the reservation Indians were very cautious in their reception of the enumerators. Their portfolios were suggestive of books, and many Indians, considering them books of new religious creeds, refused to answer the questions. Others advised resistance, claiming that this enrollment was a scheme to get their names, which would then be attached to an alleged treaty, and they would be robbed of their right to remain on their lands. Naturally suspicious of the white man, and doubly so of a Government official, it

was only by the cool judgment and patience of the special agents that the work was performed. The enrollment of the Shawnee, Miami, Winnebago, Sioux, and other tribes presents many curious and interesting features. Some Indians of these tribes are reported as eighty, ninety, one hundred, one hundred and ten, and in one case one hundred and fourteen years of age, and speak only their tribal language. The philologist, with the aid of the phonograph, could, by visiting the reservations and meeting these aged persons, preserve the tongue of many tribes now nearly extinct.

The number of reservation Indians engaged in agriculture for a livelihood is smaller than that of those who obtain a living through rude digging, hunting, fishing, or horse trading. The Navajos are entirely self-sustaining as sheep and horse raisers.

The names of new counties in each State and Territory, and also those showing a decrease of population, can be discovered by turning to the articles on States distributed alphabetically through this volume.

Population of Cities.—The table showing the population of 306 cities in the United States having a population of 10,000 and over in 1890 needs little explanation. The names have been arranged alphabetically for easy reference. It

FINANCIAL CONDITION OF MUNICIPALITIES.

STATES AND TERRITORIES.	No. of cities.	Bonded debt, 1889-'90.	Floating debt, 1889-'90.	Available resources, 1889-'90.
Alabama.....	4	\$3,711,741	.....	\$81,556
Arizona.....	1	28,000	\$8,530	1,009
Arkansas.....	9	125,000	2,900	18,948
California.....	15	8,809,500	24,896	1,650,948
Colorado.....	5	1,235,000	229,689	886,554
Connecticut.....	37	9,492,169	1,401,184	2,640,078
Delaware.....	3	1,497,900	11,376	281,176
Dist. of Columbia.....	1	19,781,050	.....	2,882,300
Florida.....	5	96,800	5,360	8,460
Georgia.....	11	9,107,850	10,900	2,710,650
Idaho.....	41	(a)	.....	.....
Illinois.....	41	19,305,988	292,002	25,067,511
Indiana.....	80	5,417,630	141,965	1,725,810
Iowa.....	28	3,068,405	175,965	699,819
Kansas.....	27	8,139,622	67,488	555,261
Kentucky.....	9	9,808,414	46,298	8,407,818
Louisiana.....	6	16,356,022	757,292	4,505,006
Maine.....	43	10,989,417	729,446	5,885,147
Maryland.....	10	68,090,567	467,018	1,666,732
Massachusetts.....	123	92,458,619	4,778,760	39,979,152
Michigan.....	36	6,902,604	191,118	2,818,274
Minnesota.....	12	6,785,440	250,704	1,839,415
Mississippi.....	6	696,960	104,080	102,763
Missouri.....	33	24,292,600	53,994	322,351
Montana.....	1	(a)	.....	.....
Nebraska.....	6	1,989,100	1,018,069	74,803
Nevada.....	1	.....	.....	460
New Hampshire.....	17	4,018,190	325,497	1,211,860
New Jersey.....	37	41,226,315	1,496,516	9,430,449
New Mexico.....	76	(a)	.....	.....
New York.....	76	211,675,185	8,872,611	94,309,252
North Carolina.....	8	1,352,210	7,106	420,541
North Dakota.....	3	306,000	71,057	94,577
Ohio.....	58	42,585,984	467,349	4,870,827
Oregon.....	5	801,050	23,619	27,775
Pennsylvania.....	65	76,915,347	1,388,024	68,400,612
Rhode Island.....	16	12,725,250	1,737,545	2,747,862
South Carolina.....	4	4,955,945	5,800	174,306
South Dakota.....	2	80,500	19,000	30,960
Tennessee.....	4	6,244,473	124,064	1,029,744
Texas.....	13	3,948,456	140,884	1,920,152
Utah.....	.....	.....	87,000	5,000
Vermont.....	1	711,500	36,427	177,640
Virginia.....	12	14,034,577	267,029	5,876,427
Washington.....	1	20,000	.....	.....
West Virginia.....	2	88,000	.....	80,805
Wisconsin.....	35	5,201,009	28,633	1,094,670
Wyoming.....	2	177,000	.....	18,845
Totals.....	588	\$720,665,551	\$25,254,285	\$290,575,846

(a) No reports from cities at time of publication.

* See note on p. 829.

will be seen that in the column for population in 1850, and sometimes in that for 1870, there are blanks. In these instances it will be understood either that the city had no corporate existence under the name it now bears at the time of taking of the seventh or ninth census, or that no mention is made of such place or places in the census volumes on population.

The urban population of the United States and Territories, according to the census report, is 18,235,670, out of a total population of 62,622,250 (exclusive of Alaska and Indian Territory), the percentage being 29.12. The table given below, as shown in a bulletin exhibit, reveals the proportion of urban population to the whole since 1790:

CENSUS YEARS.	Population of the United States.	Population of cities.	Inhabitants of cities in each 100 of the total population.
1790.....	3,929,314	131,472	3.35
1800.....	5,308,483	210,875	3.97
1810.....	7,239,881	256,920	4.93
1820.....	9,633,822	473,185	4.93
1830.....	12,866,020	861,509	6.72
1840.....	17,069,459	1,453,994	8.52
1850.....	23,191,876	2,497,586	12.49
1860.....	31,443,321	5,072,256	16.13
1870.....	38,526,311	8,071,875	20.95
1880.....	50,155,788	11,813,547	23.57
1890.....	62,622,250	18,235,670	29.12

Another official exhibit of great value in viewing the rapid growth of municipalities is here inserted, giving, with the one above, an excellent record of urban prosperity and progress:

CITIES HAVING A POPULATION OF 100,000 AND OVER.

Rank.	1890.	1880.	1870.
1	New York, N. Y.	New York, N. Y.	New York, N. Y.
2	Chicago, Ill.	Philadelphia, Pa.	Philadelphia, Pa.
3	Philadelphia, Pa.	Brooklyn, N. Y.	Brooklyn, N. Y.
4	Brooklyn, N. Y.	Chicago, Ill.	St. Louis, Mo.
5	St. Louis, Mo.	Boston, Mass.	Chicago, Ill.
6	Boston, Mass.	St. Louis, Mo.	Baltimore, Md.
7	Baltimore, Md.	Baltimore, Md.	Boston, Mass.
8	San Francisco, Cal.	Cincinnati, Ohio.	Cincinnati, Ohio.
9	Cincinnati, Ohio.	San Francisco, Cal.	New Orleans, La.
10	Cleveland, Ohio.	New Orleans, La.	San Francisco, Cal.
11	Buffalo, N. Y.	Cleveland, Ohio.	Buffalo, N. Y.
12	New Orleans, La.	Pittsburg, Pa.	Washington, D. C.
13	Pittsburg, Pa.	Buffalo, N. Y.	Newark, N. J.
14	Washington, D. C.	Washington, D. C.	Louisville, Ky.
15	Detroit, Mich.	Newark, N. J.	
16	Milwaukee, Wis.	Louisville, Ky.	
17	Newark, N. J.	Jersey City, N. J.	
18	Minneapolis, Minn.	Detroit, Mich.	
19	Jersey City, N. J.	Milwaukee, Wis.	
20	Louisville, Ky.	Providence, R. I.	
21	Omaha, Neb.		
22	Rochester, N. Y.		
23	St. Paul, Minn.		
24	Kansas City, Mo.		
25	Providence, R. I.		
26	Denver, Col.		
27	Indianapolis, Ind.		
28	Allegheny City, Pa.		

Colored Population of the South.—The result of the race count for the South Atlantic and South Central States, and for Missouri and Kansas, has been officially announced in the following table.

Fifteen sixteenths of the entire colored population is given in the totals for 1890, that proportion being inhabitants of the States included. In the remarks of the Superintendent of Census it is pointed out that the colored population in

STATES.	White.	Colored.	Chinese.	Jap- anese.	Indiana.
Alabama.....	880,796	681,481	40	...	750
Arkansas.....	816,517	811,227	131	...	804
Delaware.....	139,429	29,022	88	...	4
Dist. of Columbia.....	154,252	75,927	86	8	19
Florida.....	224,461	166,618	101	14	168
Georgia.....	978,469	868,716	110	1	64
Kansas.....	1,374,882	51,251	107	...	806
Kentucky.....	1,585,526	272,981	29	1	98
Louisiana.....	354,712	562,898	315	89	628
Maryland.....	824,149	215,004	197	6	84
Mississippi.....	539,703	747,729	122	1	2,004
Missouri.....	2,524,468	154,181	418	4	168
North Carolina.....	1,049,191	567,170	15	...	1,571
South Carolina.....	458,454	692,508	20	...	172
Tennessee.....	1,392,971	494,800	64	10	178
Texas.....	1,741,190	492,887	727	3	766
Virginia.....	1,014,680	640,867	59	13	870
West Virginia.....	729,202	83,508	16	...	8
Total.....	16,568,205	6,096,166	2,581	100	8,207

the States given increased at the rate of 13.90 per cent. during the decade 1880 to 1890, the increase in the white population in the same States during the same period being at the rate of 24.67 per cent., or nearly double.

Increase and Decrease in Population.—On the chart accompanying this article may be seen a dotted line inclosing spaces here and there throughout the States. The area inclosed represents localities wherein there has been a decrease in population since 1880. These decreases occur in 138 counties, the losses being principally in the central parts of Maine, New Hampshire, Vermont, New York, northern New Jersey, and eastern Virginia, the decrease in the last-named State being from the summit of the Blue Ridge to the Atlantic. Decreases are frequently to be noted through Ohio, Indiana, Illinois, Tennessee, and Kentucky. In southern Michigan and Wisconsin the dotted lines are also to be seen. In eastern Iowa many counties have lost population. The mining counties of Colorado show a decrease, and the area of a diminished population includes the whole State of Nevada, excepting only two counties.

On the other hand, very rapid increases are recorded in the census returns from the great plains and generally throughout the agricultural regions of the Cordilleran plateau. Northern Michigan, western and southern Florida, Arkansas, southern Missouri, and central Texas show phenomenal growth, while here and there throughout the southern Appalachian region are areas of great increase.

The geographer of the census and the superintendent, in publishing a graphic exhibit, from which the dotted areas shown in the chart have been taken, draw attention to the fact that, "in the upper Mississippi valley and in Virginia, where some of the greatest areas of loss are indicated, the community is in a transition stage from agricultural to manufacturing industries. The rich lands of the farther Western States are drawing their farmers away to reap larger profits, while other industries have not yet attained such a footing as to attract or retain population in their place. The condition of things now prevailing in these States was suggested by the census of 1880, when Ohio was seen to be in this transition stage. Since then this transition wave has extended westward across Indiana, Illinois, and well into Iowa."

STREET RAILWAYS.

CITY.	LENGTH OF LINE.		MOTIVE POWER, 1889.			
	1880.	1889.	Animal.	Electric.	Cable.	Steam.
Albany, N. Y.	18-50	20-44	18-19	7-25	.....	.....
Atlanta, Ga.	15-48	28-93	19-48	1-95	.....	7-10
Baltimore, Md.	61-97	105-81	105-81	.....	.....	.....
Birmingham, Ala.	.....	76-94	16-90	.....	.....	60-04
Boston, Mass.	100-00	200-86	181-15	40-71	.....	.....
Brooklyn, N. Y.	124-10	164-44	132-25	6-30	.....	25-19
Buffalo, N. Y.	25-44	42-30	42-30	.....	.....	.....
Charleston, S. C.	15-14	19-19	19-19	.....	.....	.....
Chicago, Ill.	80-47	184-78	160-77	.....	24-11	.....
Cincinnati, Ohio.	51-98	71-78	49-72	9-50	12-51	.....
Cleveland, Ohio.	26-41	58-70	40-88	17-82	.....	.....
Columbus, Ohio.	18-50	20-65	19-90	7-5	.....	.....
Dallas, Tex.	4-00	20-07	16-07	.....	.....	4-00
Dayton, Ohio.	9-75	18-16	14-00	4-16	.....	.....
Denver, Col.	8-00	71-46	28-59	4-35	29-09	8-50
Detroit, Mich.	26-56	61-26	48-96	12-80	.....	.....
Fall River, Mass.	4-05	11-94	11-94	.....	.....	.....
Galveston, Tex.	22-09	32-96	32-96	.....	.....	.....
Grand Rapids, Mich.	10-75	24-70	20-57	.....	4-18	.....
Hartford, Conn.	9-25	16-80	16-80	.....	.....	.....
Indianapolis, Ind.	15-00	41-39	41-39	.....	.....	.....
Jersey City, N. J.	15-40	24-29	20-74	.....	1-40	9-25
Kansas City, Mo.	9-50	84-97	10-06	7-59	88-66	28-66
Los Angeles, Cal.	11-08	88-89	84-58	7-50	14-60	25-16
Louisville, Ky.	89-25	82-11	60-50	4-00	.....	8-51
Lowell, Mass.	5-23	29-98	22-98	.....	.....	.....
Memphis, Tenn.	15-00	59-20	52-20	.....	.....	.....
Milwaukee, Wis.	19-57	45-78	40-88	.....	.....	8-85
Minneapolis, Minn.	9-00	51-50	38-50	.....	.....	18-00
Nashville, Tenn.	9-68	45-98	14-68	11-10	.....	20-20
Newark, N. J.	87-54	51-57	51-57	.....	.....	.....
Elizabeth, N. J.	.....	.....	.....	.....	.....	.....
New Haven, Conn.	16-75	20-65	20-65	.....	.....	.....
New Orleans, La.	85-57	104-82	91-62	.....	.....	12-70
New York, N. Y.	130-55	177-10	133-53	.....	6-97	36-70
Oakland, Cal.	17-04	24-00	18-96	.....	2-78	2-32
Omaha, Neb.	4-50	49-42	21-17	23-79	4-46	.....
Paterson, N. J.	18-50	16-00	16-00	.....	.....	.....
Philadelphia, Pa.	249-19	288-47	260-47	.....	28-00	.....
Pittsburg, Pa.	.....	.....	.....	.....	.....	.....
Allegheny, Pa.	88-59	67-78	84-51	20-80	12-97	.....
Providence, R. I.	25-80	50-48	47-48	.....	8-00	.....
Reading, Pa.	4-80	15-43	14-10	1-33	.....	.....
Richmond, Va.	8-00	14-87	5-65	.....	.....	.....
Rochester, N. Y.	13-02	37-29	32-59	4-70	.....	.....
St. Joseph, Mo.	4-75	18-19	18-00	17-19	.....	.....
St. Louis, Mo.	65-20	115-75	97-05	1-00	20-70	.....
St. Paul, Minn.	6-00	82-00	22-00	.....	10-00	.....
San Francisco, Cal.	57-08	87-92	27-88	.....	47-22	18-37
Savannah, Ga.	6-02	12-42	8-17	.....	.....	4-25
Scranton, Pa.	10-50	23-82	.....	28-82	.....	.....
Syracuse, N. Y.	16-78	34-69	30-51	3-88	.....	.....
Toledo, Ohio.	15-00	30-82	28-82	2-00	.....	.....
Trenton, N. J.	4-63	15-50	15-50	.....	.....	.....
Troy, N. Y.	16-48	16-48	18-48	.....	.....	.....
Washington, D. C.	29-47	89-77	85-27	3-50	.....	.....
Wilmington, Del.	8-78	8-97	6-12	2-55	.....	.....
Worcester, Mass.	4-00	14-86	14-86	.....	.....	.....
Totals	1,689-54	8,150-93	2,351-10	260-86	225-87	288-60

"As a whole," remarks the Superintendent of Census, in concluding his review of the situation, "the plains and the Cordilleran region have been peopled rapidly, especially in the northern portions. It is this region which, by virtue of its virgin soil, cheap land, and easy tillage, has reduced the profits of Eastern agriculture, and has thus drawn so heavily upon the farming population of the more eastern States. The rich mineral deposits of Montana and Arizona have been largely instrumental in drawing population to this region. While the mineral product of Colorado has not diminished, the era of speculation is over, and the floating population which covered its mountains and valleys ten years ago has, in the main, departed."

Center of Population.—The geographer of the census reports officially that the center of population is now in southern Indiana, at a point

a little west of south of Greensburg, the county seat of Decatur County, and 20 miles east of Columbus, Ind. The exact geographical location is in latitude 39° 11' 56" and longitude 85° 32' 53". After saying that "the center of population is the center of gravity of the population of the country, each individual being assumed to have the same weight," the geographer thus describes the manner of procedure: "The population of the country was first distributed by 'square degrees,' as the area included between consecutive parallels and meridians has been designated. A point was then assumed tentatively as the center, and corrections in latitude and longitude to this tentative position were computed. In this case the center was assumed to be at the intersection of the parallel of 39° with the meridian of 86° west of Greenwich. The population of each square degree was assumed

to be located at the center of that degree, except in cases where it was manifest that this assumption would be untrue, as, for instance, where a part of the square degree was occupied by the sea or other large body of water, or where it contained a city of considerable magnitude which was situated 'off center.' In these cases the position of the center of the population of the square degree was estimated as nearly as possible. The distance of each such center of population of a square degree, whether assumed to be at the center of the square degree or at a distance from the center, from the assumed parallel, and from the assumed meridian were then computed. The population of each square degree was then multiplied by its distance from the assumed parallel of latitude, and the sum of the products or moments north and south of that parallel made up. Their difference, divided by the total population of the country, gave a correction to the latitude. In a similar manner the east and west moments were made up, and from them a correction in longitude was obtained."

During the ten years terminating with 1800 the center of population moved 41 miles almost due west, starting from a point about 23 miles east of Baltimore. From 1800 to 1810 the move was 36 miles westward and slightly southward; 1810 to 1820, 50 miles westward and slightly southward; 1820 to 1830, 39 miles westward and southward; 1830 to 1840, 55 miles westward and northward; 1840 to 1850, 55 miles westward and slightly southward; 1850 to 1860, 81 miles westward and slightly northward; 1860 to 1870, 42 miles westward and sharply northward, reaching a point about 48 miles east by north of Cin-

cinnati, Ohio, and in 1880 the center of population had moved 58 miles to a point 8 miles west by south of the same city. From 1880 to 1890 it moved westward 48 miles.

Distribution in Accordance with Rainfall.—The average rainfall in the United States is 29.6, the variations ranging from 0 to about 125 inches. The larger number of the inhabitants occupy the region in which the annual rainfall is between 30 and 50 inches, comprising about three fourths of the entire population, while the greatest density of population is in the area showing 40 to 50 inches of annual rainfall, the average of this region being 59 inhabitants to the square mile. In the eastern portions of the Great Plains stretching from Texas to Dakota, where the most rapid increase in population is taking place, the rainfall ranges from 20 to 30 inches. The density of population in this section has increased in twenty years from 1.6 to 8.1 per square mile. In every 100,000 of the population, 300 are living in a region where the rainfall is below 10 inches. Where the rainfall is from 10 to 20 inches, the population is 2,612 in every 100,000; from 20 to 30 inches, 6,038; 30 to 40 inches, 34,107; 40 to 50 inches, 39,459; 50 to 60 inches, 16,164; 60 to 70 inches, 1,274; and above 70 inches of rainfall the population is equal to 55 in every 100,000. The average rainfall with relation to the population, deduced by giving weight to each area of country in proportion to the number of inhabitants, is 41.4 inches. In 1880 it was 42 inches, and in 1870 42.5 inches. The diminution has been caused mainly by the settlement of the Great Plains and the arid regions of the West.

STATES AND TERRITORIES.	PRODUCTION OF PIG IRON.				PRODUCTION OF STEEL.			
	Completed furnace stacks.		Production of pig iron, in tons.		Number of steel works.*		Production of steel of all kinds (tons of 2,000 pounds).	
	1880.	1890.	1880.	1890.	1880.	1890.	1880.	1890.
Alabama.....	15	48	62,386	890,432	...	1	.....	300
California.....	...	...	...	...	...	1	.....	6,904
Colorado.....	...	2	...	12,949	...	1	.....	17,952
Connecticut.....	8	8	18,779	21,700	8	8	2,116	1,784
Georgia.....	10	5	23,099	35,747	...	...	.....	.....
Illinois.....	10	15	93,468	674,506	6	14	254,569	568,250
Indiana.....	4	2	13,237	11,470	...	6	...	1,350
Kentucky.....	22	6	58,108	44,199	2	1	850	.....
Maine.....	1	1	2,015	8,700	...	...	.....	1,000
Maryland.....	22	14	59,664	96,346	1	1	.....	.....
Massachusetts.....	6	4	9,543	8,881	3	6	9,615	30,252
Michigan.....	27	26	119,586	224,905	...	2	.....	5,600
Minnesota.....	1	1	...	...	...	...	.....	.....
Missouri.....	17	8	95,050	99,181	1	1	8,409	.....
New Hampshire.....	...	...	...	...	1	1	4,521	3,700
New Jersey.....	20	18	157,414	145,640	6	8	10,942	17,999
New York.....	57	87	813,868	850,640	5	8	86,745	113,499
North Carolina.....	7	1	...	3,577	...	...	.....	.....
Ohio.....	103	71	548,712	1,802,299	7	13	107,888	446,908
Oregon.....	1	1	8,200	8,411	...	...	.....	.....
Pennsylvania.....	269	224	1,980,311	4,712,511	35	79	658,561	2,768,238
Rhode Island.....	...	...	...	...	1	...	.....	.....
Tennessee.....	21	19	47,878	290,747	1	4	4,900	100
Texas.....	1	4	1,400	8,950	...	...	.....	.....
Utah Territory.....	2	...	...	...	...	...	.....	.....
Vermont.....	1	...	620	...	1	...	8,000	.....
Virginia.....	81	81	17,906	802,447	...	1	.....	.....
Washington.....	...	1	...	4,787	...	...	.....	.....
West Virginia.....	11	5	80,029	108,764	...	2	...	188,223
Wisconsin.....	14	10	118,282	210,937	...	...	.....	.....
Totals.....	681	562	* 8,781,021	+ 9,579,779	78	158	1,145,711	4,466,926

* Includes 4,229 tons of castings made direct from furnace.

† Includes 9,929 tons of castings made direct from furnace.

‡ Each Bessemer, open-hearth, and crucible steel plant is counted as separate works, although two or more of these plants are frequently embraced in a single establishment.

COAL.

STATES AND TERRITORIES.	ALABAMA, MARYLAND, PENNSYLVANIA, AND WEST OF MISSISSIPPI RIVER.			
	Total product (short tons).	Value of product at mines.	Number of employes (all grades).	Wages paid.
Pennsylvania (anthracite).....	45,544,970	\$65,718,165	125,229	\$39,152,124
Maryland.....	2,989,715	2,517,474	3,794	1,780,089
Alabama.....	3,978,484	5,707,426	6,762	3,175,856
Dakota and Nebraska.....	30,907	46,881	76	18,460
Kansas.....	2,240,763	3,294,754	5,065	2,820,591
Indian Territory.....	752,882	1,923,906	1,567	927,267
Iowa.....	4,061,704	5,392,220	9,198	3,908,291
Missouri.....	2,567,828	3,478,058	6,739	2,546,812
Arkansas.....	279,544	395,886	589	203,009
Texas.....	128,216	340,617	648	256,894
Montana.....	363,901	581,523	857	687,338
Wyoming.....	1,888,947	1,748,618	2,692	1,554,067
Colorado.....	2,960,596	3,608,622	4,645	2,542,820
New Mexico.....	486,983	872,785	1,034	605,248
Utah.....	236,601	377,456	565	268,571
California and Oregon.....	186,179	451,881	443	264,649
Washington.....	993,724	2,308,755	1,547	1,155,238
Totals.....	67,980,669	\$96,856,327	171,890	\$61,214,564

Distribution in Accordance with Humidity.—The Superintendent of Census, in an official publication giving facts under this heading, explains the object of the inquiry, preceding such explanation with a statement as to the technical meaning of the phrase "Relative Humidity." He says: "By the relative humidity of the atmosphere is to be understood the amount of moisture contained in it in proportion to the amount required to saturate it. The amount, of course, varies with the temperature, the higher the temperature the greater the amount of moisture which it is capable of holding in solution. The term is not, therefore, an expression of the absolute amount of moisture. This factor of climate has marked influence upon certain classes of diseases, particularly pulmonary and throat diseases, and a study of the distribution of the population in accordance with this factor, combined with deaths from pulmonary complaints, will doubtless prove of value in the selection of reports for those afflicted." The geographer of the census points out that the atmosphere along the Atlantic, Gulf, and Lake coasts, and the entire Pacific coast, is heavily charged with moisture. It is especially so on the coast of Oregon and Washington. The high mountain regions of the Appalachian, and to a considerable extent those of the Rocky mountain ranges, also have a moist atmosphere. The moisture is less in the Piedmont region east of the Appalachians and in the upper Mississippi valley. Passing across the prairies and the great plains, the amount of moisture in the atmosphere diminishes still more, while the minimum is reached in the Great Basin, in Utah, Nevada, southern Arizona, and southeastern California. In a general way, the amount of moisture in the atmosphere increases and decreases with the rainfall, but this is not always the case. The upper lake region, with an atmosphere as moist as that of Washington city, has a much smaller rainfall. The coast of southern California, with a deficient rainfall, has as moist an atmosphere as the Atlantic coast. "Nearly all the population breathe an atmos-

phere containing 65 to 75 per cent. of its full capacity of moisture—that is, the atmosphere is from two thirds to three fourths saturated. In 1890, 57,036,000 out of 62,622,250 were found in this region; in 1880, 46,559,000 out of 50,155,783; and in 1870, 36,273,000 out of 38,558,371."

Distribution by Drainage Basins.—The distribution of the population by drainage basins, in 1890, is shown to be as follows: Atlantic Ocean 96.2, which is made up of New England coast, 7.2; Middle Atlantic coast, 18.3; South Atlantic coast, 6.8; Great Lakes, 11.2; Gulf of Mexico, 52.7; Great Basin, 0.4; and Pacific Ocean, 3.4. The drainage areas are classified primarily by the two oceans and the Great Basin; second, by sections of the coast; third, by the principal rivers, the rivers of each section of the coast being arranged under that section, and the branches of a river placed under the main river. The New England coast comprises the area and population of the basins of the several rivers given beneath it, and, in addition to these, the area and population of the minor streams and of the immediate coast from the eastern border of Maine to the Hudson river. The Middle Atlantic coast comprises, besides the basin of the rivers under it, in like manner, the basins of the minor streams and of the coast itself as far as the mouth of the Potomac, including that stream. The South Atlantic coast comprises the country from the Potomac southward to Florida. The Gulf of Mexico, beginning with the peninsula of Florida, embraces the coast and the whole Mississippi valley to the mouth of the Rio Grande, including that stream. The proportion living within the region drained to the Atlantic is steadily diminishing, while of this region the part drained to the Gulf of Mexico is becoming relatively more populous, as is the case in a still more marked degree in the Great Basin and the region drained to the Pacific.

Official Staff.—The following members of the official census staff include all who are responsible to the Superintendent of Census for the accuracy and completeness of information to be inserted in the volumes to be issued as final reports under their respective headings:

Geography: Henry Gannett, expert special agent; Population: William C. Hunt, expert special agent; Vital Statistics: Dr. John S. Billings, expert special agent; Church Statistics: Dr. Henry J. Carroll, expert special agent; Educational Statistics: Prof. James H. Blodgett, special agent; Pauperism and Crime: Rev. Frederick H. Wines, special agent; Wealth, Debt, Taxation, and Local Government: T. Campbell-Copeland, expert special agent; National and State Finances: J. K. Upton, special agent; Farms, Homes, and Mortgages: George K. Holmes, special agent; Agriculture: John Hyde, special agent, and Mortimer Whitehead, special agent; Manufactures: Frank R. Williams, expert special agent; Mines and Mining: Dr. David T. Day, special agent; Fish and Fisheries: Charles W. Smiley, special agent; Transportation: Prof. Henry C. Adams, special agent; Insurance: Charles A. Jenney, special agent; Statistics of Special Classes: Dr. John S. Billings, expert special agent; Alaska: Ivan Pettrif, special agent; Statistics of Indians: Thomas Donaldson, special agent; Social Statistics of Cities: Henry Tiffany, special agent. For purposes of discipline, to facilitate the preparation of tabular exhibits, and to conduct special investigations, expert special agents and others taking first rank in each division have chiefs of division or special agents assigned to them.

UNITED STATES, FINANCES OF THE.

The receipts and expenditures of the United States for the year ending June 30, 1890, may be classified and compared with those of the year previous as follow:

RECEIPTS.		
SOURCES.	1889.	1890.
Internal revenue	\$190,881,518 92	\$142,696,705 51
Customs	228,832,741 60	229,665,594 57
Sales of public lands	8,998,651 79	6,355,272 51
Tax on circulation of national banks	1,536,057 16	1,901,826 58
Repayment of interest by Pacific railways	608,764 72	705,601 52
Sinking fund for Pacific railways	1,321,124 58	1,842,564 52
Customs fees, fines, penalties, and forfeitures	1,118,020 78	1,299,324 52
Fees, consular and lands	2,238,545 99	1,799,070 50
Proceeds of sales of Government property	295,580 42	192,128 99
Profit on coinage of silver dollars	9,850,250 90	9,825,416 57
Profit on other coinage	814,958 89	881,827 63
Revenues of District of Columbia	2,328,950 09	2,809,180 93
Tax on seal skins	817,500 00	262,500 00
Fees on letters patent	1,144,514 60	1,817,621 78
Miscellaneous	8,042,944 76	2,670,821 11
Total net receipts exclusive of public debt	857,050,053 84	408,050,982 63
Public debt	245,111,850 00	245,293,650 00
Total net receipts	\$692,161,408 84	\$648,374,632 63

EXPENDITURES.		
PURPOSE.	1889.	1890.
Congress	\$7,015,584 98	\$6,498,052 70
Executive department	12,242,427 67	11,298,590 28
Judiciary	4,463,322 51	4,849,692 06
Foreign intercourse	1,897,625 72	1,648,276 50
Improving rivers and harbors	11,208,296 70	11,787,487 88
Other expenses military establishment	88,226,974 15	82,845,400 25
Constructing new war vessels	5,630,958 98	6,891,808 08
Other expenses naval establishment	15,747,855 88	15,174,408 21
Indians	6,892,207 78	6,708,046 67
Pensions	87,621,779 11	106,986,855 07
Construction of public buildings, including sites	5,323,894 46	4,871,949 92
District of Columbia	5,248,669 92	5,677,419 52
Premiums on bonds purchased	17,292,862 65	20,904,224 06
Interest on public debt	41,001,484 29	86,099,284 05
Miscellaneous	44,478,039 00	47,558,005 42
Total net expenditures exclusive of public debt	299,288,978 25	818,040,710 66
Public debt	818,922,412 85	812,296,367 50
Total net expenditures	\$618,211,390 60	\$680,347,078 16

The receipts from duties on imports have been greater than ever before received from that source in the history of the Government, the nearest approach to the amount being that of the previous year, when it was only about \$6,000,000 less. The ordinary receipts for the year have been exceeded by those of one year only, 1882, for which they were about \$400,000 greater.

The expenditures of the Government, not including amounts paid for premiums on bonds purchased, or for principal and interest of public debt, have been greater than for any year since 1866, when they were swollen by war expenses. The increase has been almost entirely due to the payment of pensions, for which pur-

pose it will be noted there has been paid during the year the enormous amount of \$106,936,855, or about \$44,000,000 more than the entire expense of the Government was for any year previous to the rebellion of 1861.

Notwithstanding these increased expenditures, there was a net surplus of \$105,344,496.03, which, with \$5,870 received from 4 per cents., issued for interest on refunding certificates, and \$19,601,877.53 taken from the cash balance in the Treasury, in all \$124,952,243.56, was used for the redemption and purchase of the debt, including the premiums paid thereon, which amounted to \$20,304,224.06.

The United States has enjoyed no sinking fund, in the ordinary meaning of that term, for many years; but it has had an excess of ordinary receipts over ordinary expenditures for twenty years, from which has arisen an excess or surplus, constituting a true and effective sinking fund, extinguishing the national debt every year to its amount.

The principal of the debt against which no reserve is held, exclusive of the naval trust fund, may be thus stated for the dates named:

CHARACTER OF DEBT.	OUTSTANDING	
	June 30, 1889.	June 30, 1890.
Four and one half per cents.	\$189,629,000	\$109,015,759
Four per cents.	676,095,850	602,183,500
Four per cent. certificates	119,640	108,560
Old demand notes, non-interest bearing	56,442	56,032
Legal-tender notes, non-interest bearing	246,651,016	246,651,016
Fractional notes, non-interest bearing	6,916,600	6,911,511
Total debt with no reserve	\$1,060,506,183	\$964,961,669

Showing a reduction last year of the principal of the debt having no reserve of \$104,546,469.

There are also obligations against which the Treasury, by law or long usage, holds in reserve an equivalent amount of cash. These obligations are all payable on demand and draw no interest. Whether they are paid off or remain outstanding, the net condition of the Treasury is in no way affected. The changes in amounts of these obligations during the last year have been as follow:

ITEMS.	OUTSTANDING	
	June 30, 1889.	June 30, 1890.
Old loans matured	Coin. \$1,911,453	\$1,515,905
Interest thereon	Coin. 138,980	149,182
Legal-tender notes	Gold. 100,000,000	100,000,000
Deposits by national banks	Notes. 16,975,000	12,250,000
Deposits of gold for certificates	Gold. 154,028,552	157,542,979
Deposits of silver for certificates	Silver dollars. 262,629,746	801,539,751
Matured interest	1,182,581	1,026,602
Total	\$536,811,808	\$574,354,269

In addition to an equivalent of cash held by the Treasury to meet these demands, there was of cash available for other purposes on the former date, \$106,281,869, on the latter, \$85,928,167. It will be seen that the debt is rapidly disappearing. The annual interest charge, which in 1865 was \$150,977,689, was, June 30, 1889,

\$33,752,384, and on June 30, 1890, only \$29,417,603, and it has grown considerably less since that date.

The entire cash held by the Treasury, and the purposes for which it was held, was as follows on the dates named:

ITEMS.	Dec. 31, 1889.	Dec. 31, 1890.
Assets:		
Gold coin and bullion.....	\$318,518,942	\$268,020,214
Standard silver dollars and bullion.....	203,190,040	235,539,898
U. S. notes.....	15,678,925	12,199,343
Trade dollars, bullion.....	6,074,587	5,894,588
National-bank notes.....	4,500,855	8,349,587
National-bank deposits.....	40,939,554	80,047,118
Gold certificates.....		31,884,690
Silver certificates.....		1,566,315
Bonds, interest, checks, etc.	562,605	27,319
Currency certificates.....	88,775	10,000
Minor coins.....		168,887
Fractional currency.....		1,429
Fractional silver coins.....	21,927,953	18,987,690
Total	\$696,771,961	\$781,491,533
Liabilities:		
Gold certificates.....	\$122,985,589	\$175,431,969
Silver certificates.....	282,949,073	309,855,773
Note certificates.....	9,000,000	6,826,000
U. S. Treasury notes.....		24,090,500
Matured debt and interest.....	12,086,038	5,670,567
Redemption U. S. notes.....	100,000,000	100,000,000
Redemption national-bank notes.....	74,604,789	5,564,259
Public disbursing officers ..	42,539,326	46,486,517
Balance.....	62,006,546	57,571,812
Total.....	\$696,771,961	\$781,491,533

It will be noticed that the fund held for the redemption of bank notes has decreased from \$74,604,789 on Dec. 31, 1889, to \$5,564,259 on Dec. 31, 1890. This reduction resulted from the operations of section 6 of the act approved July 14, 1890, by which the balances standing with the Treasurer to the respective credits of national banks for the deposits then existing or thereafter to be made to redeem their circulating notes, excepting those constituting the 5-per-cent. fund for current redemptions, were required to be transferred to the Treasurer's general account, the bank notes thereafter to be redeemed from the general cash, and reimbursement to be made therefor to the Treasurer upon the certificate of the Comptroller of the Currency that the notes in question had been destroyed and that new ones would not be issued in their place. This made the entire balance available for current disbursement. The Government, however, necessarily assumed the responsibility of meeting on demand the redemption of the bank notes for which the fund had been provided. On Dec. 31, 1890, the Treasury owed the banks for this fund \$51,323,030.75. The total cash balance on that date, however, was but \$38,418,806.63, a sum no larger than usual for current business, showing that the fund had been used in making payments from the Treasury as the law doubtless contemplated it should be. One of the effects of the law was therefore to put into circulation upward of \$50,000,000 legal notes which hitherto had been held intact by the Treasurer as reserve, thus inflating the circulation of the country to that extent.

The circulation, however, had increased since 1880 without the expansion in a greater ratio than the population, as will be seen by the fol-

lowing table. The amount of coin circulation is from estimates of the Director of the Mint; that of paper, from official reports:

CHARACTER OF ISSUE.	OUTSTANDING.	
	June 30, 1890.	June 30, 1890.
Coin:		
Gold coin.....	\$308,638,996	\$629,992,449
Silver dollars.....	68,794,750	260,426,466
Silver fractional pieces.....	78,862,270	76,823,806
Total coin in country ..	\$451,231,016	\$1,076,144,220
From which there should be deducted the coin held in Treasury as reserve:		
For redemption of gold certificates.....	\$5,004,600	\$181,830,019
For redemption of silver certificates.....	12,874,270	297,210,048
For reduction of legal-tender notes.....	100,000,000	100,000,000
In all.....	120,878,870	528,500,066
Leaving net coin circulation.	\$380,582,146	\$547,594,153
Paper:		
Legal-tender notes.....	\$346,681,016	\$346,681,016
Fractional notes.....	7,214,954	6,911,511
National bank notes.....	844,503,427	157,549,848
Old demand notes.....	60,975	66,092
Gold certificates.....	8,004,600	181,830,019
Silver certificates.....	12,874,270	297,210,048
National-bank certificates..	14,465,000	12,230,000
Total paper circulation.	\$783,806,242	\$982,068,469
From which should be deducted:		
Legal tender-notes reserve for national-bank certificates.....	\$14,465,000	\$12,230,000
Fund for redemption of national-bank notes.....	83,433,234	61,288,587
In all.....	47,898,234	73,518,587
Leaving net paper circulation.	685,408,008	908,849,882
Add net coin circulation.....	380,582,146	547,594,153
Total circulation.....	\$1,016,260,154	\$1,456,148,770
Population.....	50,155,783	62,622,250
Circulation per capita.....	\$20 26	\$23 24

The release of the legal tender reserve for the redemption of bank notes was not, however, the main purpose of the act of July 14, 1890. This act so modified that of Feb. 14, 1878, as to direct the purchase by the Treasury of 4,500,000 ounces of silver, or so much thereof as might be offered, at the market price not to exceed one dollar for 371½ grains of pure silver, and to issue in payment therefor treasury notes to be a legal tender in payment of all debts public and private, except where otherwise expressly stipulated in the contract and when held by a national bank, to be counted as a part of its reserve. The act further declared that the Secretary of the Treasury should redeem such notes, upon their presentation, in gold or silver coin at his discretion, and that the established policy of the United States was to maintain the two metals on a parity with each other, upon the existing legal ratio or such ratio as might be provided by law. The effect of this act would necessarily be to put into circulation every month about \$6,000,000 in the certificates authorized, and should the act remain unrepealed its effect for good or evil, in a few years, must be far reaching and important.

Coinage.—During the year ending June 30, 1890, there was deposited in the mints and assay

offices of the Government gold having a coinage value of \$49,228,823, against \$48,900,712 received the previous year. Of the former amount, \$7,990,706 was of foreign bullion or coin, against \$6,583,992 in the preceding year.

Of silver, the deposits and purchases had a coin value of \$43,555,135, against \$41,457,190 in the preceding year. Of the total amount received, \$37,736,902 was classed as domestic bullion. It will be seen that the gold bullion voluntarily presented at the mints was considerably greater in value than that of silver bullion thus presented, even including that for the compulsory coinage of standard dollars. The average monthly New York price of fine bar silver was 92½ cents per ounce in July, 1889. It had risen in Dec. 1886 to 97½, and in June to \$1.05½. On Aug. 19 it reached \$1.21, the highest point for many years, but it soon receded. The enhanced value arose primarily from the operations of the act of July 14 referred to. To bring the silver and gold coinage to that parity of value which Congress had declared was the purpose of the Government, the value of fine silver should be maintained at about \$1.29 per ounce in gold. So the parity has not yet been reached.

National Banks.—Notwithstanding the growing scarcity of United States bonds available for securing circulation, within the year 307 banks have been organized, representing a capital of \$36,250,000. On Oct. 31, 1890, there were in existence 3,567 banks, the greatest number since the organization of the system. These banks then had a capital stock of \$659,782,865 and outstanding notes to the amount of \$179,735,643, including \$54,796,907 represented by lawful money deposited with the Treasurer of the United States for the redemption of notes still outstanding. Of the new banks organized, the greatest number this year as last year was in Texas, that State having organized within the year 63 new banks with a capital of \$5,050,000. The second State in organizing such banks was Pennsylvania, which had set up 27 with a capital of \$2,375,000, though Missouri, which had organized but 20, had employed a capital of \$4,400,000. The strength, popularity, and vitality of the system are well illustrated by such an exhibit. In Texas and Missouri, where strong prejudice against the system has heretofore existed, the number of banks and capital employed has steadily increased, not only during the past year but for several years, and in no part of the country does there seem to be any well founded objection to the continuance of the system, though should the decrease of the debt continue as of late, the inability of the banks to much longer obtain national bonds to secure circulation must lead to important changes in the method of issuing notes, should such issue continue.

The statement on page 824 shows the number of national banks, their resources and liabilities at the dates named.

An examination of this statement shows an increase in the number of banks of 214, of capital stock, \$32,607,069, between the dates mentioned. The individual deposits had largely increased, those of the Government considerably decreased, as had the circulating notes. Loans and discounts had increased nearly \$200,000,000, showing a good demand for the use of money.

The most suggestive part of the exhibit is the increase of specie, especially that of gold coin or gold certificates, of which the banks held an increase of about \$29,000,000, indicating a significant preference for that kind of circulation. The increase in silver or its certificates was but little in excess of \$2,000,000, though there had been, within the date, a great increase of such circulation.

RESOURCES AND LIABILITIES.	DEC. 31, 1889.	OCT. 2, 1890.
	3,326 banks.	3,567 banks.
<i>Resources:</i>		
Loans and discounts.....	\$1,797,358,787 98	\$1,970,022,687 87
Overdrafts.....	14,825,108 64	16,083,683 76
U. S. bonds to secure circulation.....	143,484,700 00	189,960,050 00
U. S. bonds to secure deposits.....	41,681,000 00	28,384,500 00
U. S. bonds on hand.....	8,740,830 00	2,297,500 00
Other stocks, bonds, etc., due from approved reserve agents.....	111,844,480 82	115,022,951 03
Due from other national banks.....	164,889,765 16	189,451,786 49
Due from State banks and bankers.....	118,806,354 91	118,289,612 46
Due from State banks and bankers.....	28,143,631 88	28,465,228 83
Banking-house, furniture and fixtures.....	50,669,549 72	65,135,608 29
Other real estate and mortgages owned.....	11,024,641 65	11,679,617 73
Current expenses and taxes paid.....	11,902,368 22	9,099,403 20
Premiums paid.....	15,347,692 85	14,243,488 10
Checks and other cash items.....	15,134,700 19	17,301,519 17
Exchanges for clearing-house.....	103,719,453 48	106,767,176 06
Bills of other banks.....	20,388,507 09	18,492,392 00
Fractional currency, nickels, and cents.....	720,162 87	766,846 68
* Specie, viz.:		
Gold coin.....	71,910,467 55	74,664,829 34
Gold Treasury certificates.....	64,902,260 00	93,332,605 00
Gold clearing-house certificates.....	12,506,000 00	3,469,000 00
Silver coin—dollars.....	6,459,483 00	6,459,484 00
Silver Treasury certificates.....	11,222,004 00	13,629,284 00
Silver coin—fractional.....	4,980,243 53	4,820,607 50
Legal-tender notes.....	84,490,394 00	80,604,781 00
U. S. certificates of deposit for legal-tender notes.....	9,045,000 00	6,155,000 00
Five per cent. redemption fund with treasurer.....	6,276,679 40	6,123,597 88
Due from treasurer, other than redemption fund.....	1,289,867 01	816,923 48
Aggregate.....	\$2,983,676,687 23	\$3,141,487,404 85
* Total specie.....	\$171,089,458 10	\$190,908,838 84
<i>Liabilities:</i>		
Capital stock paid in.....	\$617,540,164 67	\$650,447,325 00
Surplus fund.....	195,568,794 14	213,268,500 73
Other undivided profits.....	97,050,911 56	97,006,635 74
National-bank circulation outstanding.....	126,499,541 80	122,928,064 50
State-bank circulation outstanding.....	81,006 50	77,383 50
Dividends unpaid.....	1,289,651 13	2,476,336 34
Individual deposits.....	1,436,402,685 65	1,564,543,174 67
U. S. deposits.....	39,224,588 51	23,118,569 89
Deposits of U. S. disbursing officers.....	4,672,950 14	4,299,511 42
Due to other national banks.....	267,159,449 09	255,081,259 25
Due to State banks and bankers.....	123,718,409 48	141,850,736 21
Notes and bills rediscounted.....	15,728,378 11	23,660,829 51
Bills payable.....	5,970,976 65	10,801,913 54
Aggregate.....	\$2,938,676,687 23	\$3,141,487,404 85

URUGUAY, a republic in South America, having an area of 69,835 square miles and a population of 648,297, as officially computed in 1888, or 687,194 with addition of 6 per cent. for deficiencies in the enumeration. The number of marriages in 1888 was 3,976; of births, 25,832; of deaths, 12,077; excess of births, 13,755. The immigration in 1889 was 27,349, and the emigration 10,658.

The President of the republic is Dr. Hereira y Obes, who was elected in March, 1890.

Finances.—The receipts in 1889 were 15,580,333 pesos or dollars, of which 10,818,336 pesos were derived from customs, 1,678,200 pesos from direct taxes, 1,171,700 pesos from patents, and 1,912,097 pesos from other sources. The public debt on Jan. 1, 1890, amounted to 81,491,722 pesos, 50,480,350 pesos representing the unified external debt, 19,800,160 pesos internal debt, 2,297,525 pesos international debt, 4,518,788 pesos extinguishable loans, 3,139,478 pesos railroad debts, and 1,255,421 the sinking fund.

Commerce.—The imports in 1889 had a total value of 36,824,000 pesos, of which 10,472,000 pesos were imported from Great Britain, 5,516,000 pesos from France, 3,432,000 pesos from Germany, 3,412,000 pesos from the United States, 3,261,000 pesos from Italy, 2,615,000 pesos from Spain, 2,505,000 pesos from Brazil, 1,626,000 pesos from Belgium, 1,450,000 pesos from the Argentine Republic, 878,000 pesos from Chili, and 1,657,000 pesos from other countries. The total value of the exports was 25,954,000 pesos, of which 5,224,000 pesos went to France, 4,111,000 to Belgium, 3,552,000 to England, 3,295,000 to Brazil, 2,290,000 to the Argentine Republic, 1,441,000 pesos to the United States, 1,300,000 pesos to Germany, and 1,831,000 pesos to other countries. The values of the chief exports of domestic produce were as follow: Wool, 9,150,000 pesos; hides and skins and leather, 7,039,000 pesos; meat, 3,826,000 pesos; tallow, 1,926,000 pesos; extract of meat, 1,100,000 pesos; stones, 767,000 pesos; animals, 466,000 pesos. Of the total imports, 33,476,433 pesos, and of the exports 17,415,686 pesos passed through the city of Montevideo. There were entered at that port during the year 766 sailing vessels, of 534,526 tons, and 987 steamers, of 1,643,491 tons, and cleared 654 sailing vessels, of 471,154 tons, and 1,016 steamers, of 1,659,515 tons, not counting 3,625 coasting vessels, of 1,978,918 tons, entered and 3,627, of 2,001,956 tons, cleared.

Financial Crisis.—The same causes that led to the financial crash in the Argentine Republic produced a simultaneous crisis in Uruguay. To prevent the disaster, if possible, the Uruguayan Government arranged with Baring Brothers and the other creditors for a further loan of £2,000,000 in June, 1890. On July 5 the National Bank, founded in 1887 with a capital of \$10,000,000, which had issued \$8,000,000 in notes, suspended specie payments and the Montevideo Bourse was closed. By a special act of the Legislature passed on July 6 the notes of the bank were declared legal currency for six months. The mercantile community refused to take them for their face value, and despite the prohibition of the Government gold was soon quoted on the Bourse at a high premium. On July 29 the merchants of Montevideo generally signed a con-

vention like one that they had entered into between themselves before, in 1875, when the Government attempted to force an irredeemable paper currency into circulation. In this convention they mutually agreed to pay gold in satisfaction of all contracts unless payments in paper were expressly stipulated, and to transact business with none that did not pay and exact gold. The effect was to drive the bank notes out of use and re-establish the metallic currency. The financial crisis and the depreciation of securities continued notwithstanding an active export trade and a productive year.

UTAH, a Territory of the United States, organized Sept. 9, 1850; area, 84,970 square miles. The population, according to each decennial census, was 11,380 in 1850; 40,273 in 1860; 86,786 in 1870; 143,963 in 1880; and 207,905 in 1890. Capital, Salt Lake City.

Government.—The following were the Territorial officers during the year: Governor, Arthur L. Thomas; Secretary, Elijah Sells; Treasurer, Bolivar Roberts; Auditor, Arthur Pratt; Commissioner of Common Schools, Jacob S. Boreman; Chief Justice of the Supreme Court, Charles S. Zane; Associate Justices, Henry P. Henderson, Thomas J. Anderson, and John W. Blackburn.

Population.—The following table shows the population of the Territory by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Beaver.....	8,918	8,840	* 578
Box Elder.....	6,791	7,612	821
Cache.....	12,562	13,200	2,947
Davis.....	5,279	6,469	1,190
Emery.....	556	4,866	4,310
Garfield.....	.....	2,457	2,457
Grand.....	.....	541	541
Iron.....	4,018	2,683	* 1,380
Juab.....	5,474	5,592	2,108
Kane.....	3,085	1,685	* 1,400
Millard.....	3,727	4,683	806
Morgan.....	1,738	1,750	* 3
Pi (to.....	1,651	2,842	1,191
Rich.....	1,263	1,627	264
Salt Lake.....	81,977	56,457	26,480
San Juan.....	204	365	161
San Pete.....	11,587	13,146	1,589
Sevier.....	4,457	6,199	1,742
Summit.....	4,921	7,783	2,812
Tooele.....	4,497	8,709	* 797
Uintah.....	799	2,392	1,458
Utah.....	17,973	23,416	6,443
Wasatch.....	2,927	4,627	1,700
Washington.....	4,235	4,069	* 226
Weber.....	12,844	23,005	10,661
Total.....	143,968	207,905	68,942

* Decrease.

Finances.—The report of Territorial Treasurer Roberts from March 15 (the date when Treasurer James Jack yielded to him possession of the office) to Dec. 31, shows that the total receipts of the office were \$529,980.28, and the total disbursements \$294,019.20, leaving a balance in the treasury on Dec. 31 of \$235,961.08. Included in the receipts was the sum of \$396,117.37 from tax collectors and \$128,000 from Territorial bonds sold pursuant to the legislative act of this year. There were in circulation on Dec. 31 warrants issued by the Territorial Auditor amounting to \$127,560.71, which, if presented for payment, would reduce the treasury balance to \$108,400.37

on that date. The bonded debt of the Territory on Dec. 31 was \$278,000, on which the rate of interest is 5 per cent. Of these bonds, \$150,000 were issued in July, 1888, and \$128,000 in July of this year. The assessed valuation of property for 1890 was \$108,612,216, of which the valuation of Salt Lake County, including Salt Lake City, was \$52,270,906. These figures show an increase of more than 100 per cent, over the valuation of 1889, a result which was chiefly produced by the operation of the amendments to the revenue law passed by the Legislature this year. The rate of taxation for Territorial purposes is 5 mills on the dollar, of which three mills is devoted to schools.

Legislative Session.—The twenty-ninth session of the Territorial Legislature began on Jan. 13, and ended on March 13. A new school law, elsewhere considered, was an important result of the session. The following appropriations were made for completing buildings for public institutions already established: For the Insane Asylum, \$103,000; for the Reform School, \$35,000; for the Agricultural College, \$33,000; for Deseret University, \$50,000. In order to raise these sums and \$25,000 additional for the Deseret Agricultural and Manufacturing Society in aid of the erection of fair buildings, provision was made for the issue and sale of Territorial bonds to an amount not exceeding \$300,000, bearing interest at a rate not exceeding 5 per cent. Important amendments were made to the revenue laws. The assessors of property are now required to assess at double its value all property which they find to have escaped taxation in the previous year by reason of the fraud or willful neglect of the tax payer in not reporting it. Assessors and their sureties are made liable upon their bonds for all taxes on property which, through their willful failure or neglect, is not assessed or is assessed at less than its cash value, and the prosecuting attorney of each county is required to enforce this provision. The rate of taxation for Territorial purposes was reduced from 3 to 2 mills. A Territorial board was created for 1890 and 1891 to adjust and equalize the assessments made in the various counties for those years without increasing the total valuation of the Territory beyond the figures of the assessors. Provision was made for assessing stock that is driven from one county to another to escape taxation. A Territorial bureau of statistics was established. The penalties for murder, manslaughter, robbery, burglary, and forgery were increased. A memorial to Congress was adopted protesting against the proposed removal of the southern Ute Indians to the Territory. Other acts of the session were as follow:

Providing for the incorporation of building and loan associations.

Attaching a part of Sevier County to Sanpete County.

Exempting from taxation all property used in the mining or producing of raw material for, and in the manufacture of native or Portland cements, and exempting also the stock and bonds or mortgages of any company so engaged.

Amending the bounty law.

Making 8 per cent. the legal rate of interest, but permitting agreement upon any rate.

Providing for the appointment of a Territorial fish and game commissioner, and of a similar commissioner for each county.

Providing a new mechanics' lien law.

Appropriating \$30,000 to be paid in bounties to persons, firms, and corporations engaged in manufacturing iron, cast-iron pipe, or lap-welded wrought-iron pipe, sugar, rope, and twine from materials mined or produced in the Territory.

Forbidding the consolidation of competing lines of railroad.

To establish a right of way and easements for the development of mines.

Establishing a chair of geology and mineralogy in the University of the State of Deseret.

Providing a new game law.

Creating Grand County out of a portion of the county of Emery.

Prohibiting the giving, selling, or furnishing of tobacco in any form to minors under eighteen years.

To provide for the incorporation of loan, trust, and guarantee associations.

Education.—The new school law passed by the Legislature this year makes the following changes from the former law: The schools are made free. Under the law of 1880 tuition might be charged in any or every district. Cities of the first and second class are now organized under one central authority, while before there were as many boards of trustees as there were districts. Under the present law there may be established in cities of these classes schools from the kindergarten up to and including high schools, together with manual training schools. Cities of these classes may levy a tax for the special support of their schools; they may also bond for the erection of buildings, etc. It provides for compulsory education, but not in a manner that will be effective.

Early this year the buildings for the Territorial Agricultural College were completed, and the institution was opened on Sept. 4. The Legislature appropriated \$15,000 for current expenses, in addition to \$33,000 for the buildings that have been completed.

Charities.—The report of the Territorial Insane Asylum, at Provo, for the year ending Nov. 30, is as follows: Patients on Dec. 1, 1889, 129; admitted during the year, 42; discharged, 41; remaining on Nov. 30, 130. The per capita cost for care and treatment has been 54-9 cents each day. On account of the crowded condition of the building, which is the southern wing of a larger proposed building, the Legislature appropriated \$163,000 for completing the structure, and the main building and northern wing are in process of erection.

Live Stock.—The assessment of horses, cattle, and sheep in the Territory for 1890 was as follows: Horses, 75,895—value, \$2,619,739; cattle, 237,496—value, \$2,907,490; sheep, 1,156,295—value, \$2,281,585. It is estimated that about 70 per cent. of the stock in the Territory was assessed. The increase over the assessment of 1889 was 173 in the number of horses, 37,929 in cattle, and 28,182 in sheep.

Mining.—The mineral product of the Territory for 1889, as estimated by Wells, Fargo & Co., is summarized as follows: 2,060,792 pounds copper, valued at \$206,079.20; 2,359,640 pounds refined lead, valued at \$89,662.52; 59,421,730 pounds unrefined lead, valued at \$1,378,584.13; 7,147,651 ounces fine silver, valued at \$6,656,254.65; 24,975 ounces fine gold, valued at \$449,500; total export value, \$8,830,080.50. These figures

show a moderate increase in product over the year preceding.

Mormon Immigration.—From 1881 to 1889 the foreign-born population of the Territory was increased by Mormon immigration 10,094. During 1890 the usual number of immigrants arrived, mostly from Scandinavian countries. The average annual immigration to Utah of this character is about 1,800. It is very largely assisted.

The Mormon Church.—On May 19 the United States Supreme Court decided, on appeal, the case brought to test the constitutionality of the act of Congress known as the Edmunds act, dissolving the church corporation, declaring its property forfeited, and providing for the winding up of its affairs. The court held, three judges dissenting, that such an act was within the powers of Congress, and that the proceedings already instituted thereunder were properly taken. The last hope of the Mormon party was thereby destroyed. In the Territorial court there was a change of receivers of the property, and some of it was converted into money, but no further advance was made in the proceedings.

Political.—At the municipal election in Salt Lake City on Feb. 10 the Liberal ticket was elected by majorities ranging from 700 to 800. The majority of George M. Scott, Liberal candidate for Mayor, over Spencer Clawson, People's candidate, was 807. This result was attained only after an exciting contest. It was the first time in the history of the city that the Mormons were compelled to retire from its control. As the city of Ogden passed from Mormon control at the election of February, 1889, the two most important cities in the Territory are now governed by Gentiles.

Early in August elections were held throughout the Territory for county officers, at which the People's party carried 21 counties and the Liberal party 4 counties including Salt Lake County, where it elected 6 out of 9 candidates. At the November election a delegate to Congress was chosen, the candidates being John T. Caine for the People's party, and Goodwin for the Liberal party. Delegate Caine was re-elected, receiving 10,353 votes to 6,912 for the Liberal candidate.

V

VENEZUELA, a republic in South America. The area is 632,695 square miles. The population in 1888 was estimated at 2,234,385. The President since Feb. 20, 1890, has been Dr. Raimundo Andueza Palacio. He was elected by acclamation in Congress on Jan. 20 to succeed Dr. Rojas Paul, having previously filled the office of Minister of the Interior.

Finances.—The receipts, according to the budget for 1890-'91, are 35,976,000 bolivars or francs, of which 25,000,000 are derived from customs, 6,016,000 from internal-revenue taxes, and 4,960,000 from invested capital. The expenditures are estimated at 35,760,000 bolivars also. The internal or national consolidated debt amounts to 38,760,279 bolivars, the foreign debt to 67,552,588 bolivars, the Spanish, French, and German loan to 5,072,726 bolivars, and a 12-percent. loan to 1,201,602 bolivars, making a total of 112,587,185 bolivars.

Commerce.—The total value of the imports in the year 1887-'88 was 78,963,000 bolivars, as compared with 73,192,000 in 1886-'87. From England were imported goods of the value of 23,510,000 bolivars; from the United States, 19,744,000 bolivars; from Germany, 13,460,000 bolivars; from France, 12,652,000 bolivars; from other European countries, 3,070,000 bolivars; from America outside the United States, 6,527,000 bolivars. The total value of the exports was 84,413,000 bolivars, as compared with 80,245,000 bolivars in 1886-'87. The exports to the United States were 45,615,000 bolivars in value; to France, 15,210,000 bolivars; to Germany, 10,947,000 bolivars; to England, 3,319,000 bolivars; to the rest of Europe, 745,000 bolivars; to other American countries besides the United States, 9,477,000 bolivars. The principal articles of export were coffee of the value of 60,417,000 bolivars; cacao, 11,487,000 bolivars; skins, 5,122,000 bolivars; gold, 4,095,000 bolivars; copper, 905,000 bolivars; woods, 633,000 bolivars. There were

entered and cleared during 1887-'88 at the Bolivian ports 1,155 steamers and 6,394 sailing vessels, exclusive of 5,221 small craft. The merchant navy comprised 26 steamers and 2,497 sail vessels of an aggregate capacity of 25,317 tons.

Boundary Dispute.—The boundary between British Guiana and Venezuela has never been settled, and since the discoveries of valuable mineral deposits in the debatable territory, the British have repeatedly encroached on the boundaries claimed by the Venezuelans. Several years ago the Venezuelan Government asked the mediation of the United States, and Secretary Bayard laid the case before the British Foreign Office without being able to effect a settlement. In 1890 the British made a fresh advance, seizing mineral lands near the Orinoco. The Venezuelan Government sent a gunboat to the mouth of the Orinoco, the "Faro," and the British authorities dispatched the "Ready," the commander of which ordered the captain of the Venezuelan vessel to lower his colors, which he did in deference to superior force. The disputed zone was occupied by British soldiers. Dr. Pulido was sent to London as a confidential agent, and the intermediation of the United States was requested anew in November, 1890. If the British pretensions are finally sustained, Venezuela will lose not only the Yuruari gold-fields, but exclusive control of the mouth of the Orinoco.

American Claims.—In 1871, in the course of a civil war, the Venezuelan Government confiscated the vessels of the Venezuelan Steam Transportation Company that had been placed on the Orinoco when it was declared free to the commerce of all nations, and applied them to belligerent purposes, until the United States Government sent the war vessel "Shawmut" to obtain their release. For damages and loss resulting from the seizure and use of the steamers the American Government, in behalf of the owners, has several times presented claims that

have never been satisfied, although a convention was signed on Dec. 5, 1885, the time for exchanging ratifications being twice extended. In June, 1890, the United States Congress passed a joint resolution, in pursuance of which President Harrison reopened the question. A commission was appointed to revise the proceedings of a former commission, which made awards in regard to other claims under a convention arranged in 1866. This matter was settled by the labors of the new commission, which were concluded on Sept. 2, 1890.

VERMONT, a New-England State, admitted to the Union March 4, 1791; area, 9,565 square miles. The population, according to each decennial census since admission was 154,465 in 1800; 217,895 in 1810; 235,966 in 1820; 280,652 in 1830; 291,948 in 1840; 314,120 in 1850; 315,098 in 1860; 330,551 in 1870; 332,286 in 1880; and 332,422 in 1890. Capital, Montpelier.

Government.—The following were the State officers during the year: Governor, William P. Dillingham, Republican, succeeded by Carroll S. Page, Republican; Lieutenant-Governor, Urban A. Woodbury, succeeded by Henry A. Fletcher; Secretary of State, Charles W. Porter, succeeded by Chauncey W. Brownell, Jr.; Treasurer, William H. Dubois, succeeded by Henry F. Field; Auditor, E. Henry Powell; Superintendent of Education, Edwin F. Palmer; Inspector of Finance, Savings Banks, and Trust Companies, Luther O. Greene; Chief Judge of the Supreme Court, Homer E. Royce; Assistant Judges, Jonathan Ross, H. Henry Powers, John W. Rowell, Russell S. Taft, James M. Tyler, and Loveland Munson. Judges Royce and Powers not being candidates for re-election, the State Legislature in November elected Henry R. Start and L. H. Thompson to fill the vacancies, and advanced Judge Ross to the office of Chief Judge.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Addison.....	24,173	22,277	*1,896
Bennington.....	21,950	20,448	*1,502
Caledonia.....	23,607	23,436	*171
Chittenden.....	52,792	55,389	2,597
Faxs.....	7,931	9,511	1,580
Franklin.....	30,225	29,735	*490
Grand Isle.....	4,124	3,843	*281
Lamoille.....	12,654	12,831	147
Orange.....	23,525	19,757	*3,768
Orleans.....	22,053	22,101	18
Rutland.....	41,829	45,397	3,568
Washington.....	24,404	29,606	4,202
Windham.....	26,763	26,547	*216
Windsor.....	35,196	31,706	*3,490
Total.....	332,286	332,422	136

* Decrease.

Finances.—For the twenty-three months ending June 30, 1890, the report of the State Treasurer is as follows: Balance on July 31, 1888, \$88,062.30; receipts for the period, \$1,389,835.96; disbursements, \$1,360,189.52; balance on June 30, 1890, \$117,708.74. Included in the receipts is the sum of \$553,412.01 from State taxes, \$513,461.61 from corporation taxes, \$333,165 from temporary loans, and \$31,299.90 from convict labor. Among the payments were \$333,

165 to retire temporary loans, \$452,529.54 to meet warrants of the Auditor for 1889, and \$440,832.89 to meet warrants for 1890. Only twenty-three months are covered by the report, on account of an act of 1888 making June 30, instead of July 31, the end of the fiscal year. The corporation tax law of 1882 was adjudged during the year by the State Supreme Court to be unconstitutional, so far as it attempted to tax transportation companies upon their interstate earnings. The Legislature in November enacted a new law basing the rate of taxation upon property and franchises. Half of the State tax of 20 cents levied in 1889 was payable this year. The funded debt of the State remains unchanged, consisting of \$135,500 of 6-per-cent. bonds held by the State Agricultural College fund. There are no county debts.

Legislative Session.—The regular biennial session of the Legislature began on Oct. 1 and ended on Nov. 25. On Oct. 14 Justin S. Morrill was re-elected United States Senator for the fifth consecutive term, receiving in the Senate 27 votes to 1 for Edward J. Phelps, the Democratic candidate, and in the House 167 votes to 56 for Mr. Phelps. Senator Morrill was the unanimous choice of the Republican members. Members of the Supreme Court were elected in joint convention on the closing day as follows: Chief Judge, Jonathan Ross; Assistant Judges, Russell S. Taft, J. W. Rowell, J. M. Tyler, Loveland Munson, H. R. Start, and L. H. Thompson. A new school law, a new corporation tax law, and a ballot-reform law were enacted at this session. The school law abolishes the offices of county supervisor and county board of education established by the school law of 1888, and restores the office of town superintendent, which existed prior to that law. The provision of the law of 1888 reducing the school age to eighteen years was repealed, and the age is now, as formerly, from five to twenty years. The State Superintendent and Governor are required to appoint an examiner in each county, and these officials shall hold examinations in the spring and autumn of each year. No teacher can teach without a certificate or permit, but this provision does not apply to the principal teacher of the highest department of a graded school. The examiners shall also hold teachers' institutes. The law does not interfere with existing arrangements under the town system.

The corporation tax law provides for the appointment of a commissioner of State taxes, who shall gather from the various corporations information necessary for the enforcement of the law, and is given power of assessment in certain cases. It further provides that railroad companies shall pay a tax of seven tenths of 1 per cent. on the appraised value of property and franchise, or an alternative of $\frac{2}{3}$ per cent. on their entire gross earnings at their option.

Telephone companies are to be taxed at the rate of 3 per cent., telegraph companies at the rate of 10 per cent., and express companies at the rate of 4 per cent. on the gross receipts earned within the State. Steamboat, car, and transportation companies are to pay at the rate of seven tenths of 1 per cent. on their property, business, and corporate franchises. As an alternative, they may pay at the rate of 2 per cent.

on their entire gross earnings. Insurance and guarantee companies are to pay at the rate of 2 per cent. of the gross amount of premiums and assessments on State business. Life-insurance companies are to pay in addition a tax of 1 per cent. of the surplus over the necessary reserve. Savings banks are to pay seven tenths of 1 per cent. on deposits and accumulations, deducting the average amount of the assessed valuation of real estate owned and the amount of individual deposits in excess of \$1,500 each, listed to depositors. The same provisions are made for taxing trust companies. The tax on building and investment companies is at the rate of 1 per cent. on the moneys received to be loaned without the State, and bonds, mortgages, closes in action, and securities of any kind that have been sold. Corporations organized under the laws of the State having a capital stock, or deposits of \$50,000 or less, shall be assessed a tax of \$10, and for each \$50,000, or fractional part in excess of \$50,000, an additional tax of \$5.

The ballot-reform law contains the following provisions:

The expense of printing and distributing ballots to be used in general elections shall be defrayed by the counties; that of ballots for local elections, by the city, village, or town. Parties polling at least 1 per cent of the entire vote of the preceding election may make nominations, and additional nominations may be made by any body of voters numbering at least 1 per cent of the vote of the preceding election. Space is to be left on the ballots after each group of candidates for the different offices to insert the name of any person for whom it is desired to vote. At each polling-place not less than one booth for every 75 voters shall be erected.

A guard rail shall be erected at least six feet from the booths and ballot boxes. Voters shall mark a cross opposite the name of each candidate to be voted for, shall fold their ballots before leaving the booth, and deliver them to the presiding officer. The provisions of the act shall not apply to annual or special meetings for choosing town, city, or village officers, except in places of over 4,000 inhabitants.

Another act of this session provides for the levy of a State tax of 18 cents on each \$100 for the year 1891, to defray State expenses. In order to equalize the burdens of taxation for schools, it is provided that a State tax of 5 cents on each \$100 shall be annually levied and the proceeds apportioned to the towns and cities according to the number of legal schools sustained during the preceding year. Heretofore the schools of each town or school district have been supported by local taxation. The act of 1888 creating the office of Commissioner of Agriculture and Manufactures was repealed.

Other acts of the session were as follow:

Establishing a simple form of indictment for perjury. Providing that no act of the General Assembly shall affect any suit begun or pending at the time of its passage; but this shall not apply to acts regulating court practice and relating to the competency of witnesses or to the amendment of process or pleadings.

Providing that the jurisdiction of the court of chancery shall not be limited by the amount in dispute.

Regulating the discharge of mortgages.

To provide for better drainage in or near incorporated cities and villages.

To increase the penalty for the adulteration of maple sugar, maple sirup, and bees' honey.

To prevent and punish deception in the sale of dairy products, and to preserve the public health.

To prohibit the killing of deer prior to Nov. 1, 1900.

To provide for the construction and maintenance of a fish hatchery, and appropriating \$2,400 therefor in 1891 and 1892.

Education.—The following is a summary of public-school statistics for the years ending June 30, 1889, and June 30, 1890:

ITEMS.	1889.	1890.
School districts.....	2,387	2,276
Public schools.....	2,452	2,488
Average number of days of school.....	184.5	196
Pupils enrolled.....	68,753	65,668
Average daily attendance.....	47,253	45,887
Male teachers.....	478	528
Female teachers.....	8,652	8,873
Weekly wages, male teachers.....	\$9 21	\$9 60
Weekly wages, female teachers.....	\$5 33	\$6 10
Schools having not over twelve pupils.....	529	451
Total school revenue.....	\$629,402 62	\$712,988 77
Total expenditures.....	\$654,004 17	\$689,916 80
Pupils attending private schools.....	6,726	6,235

The number of children in the State between the age of five and eighteen years is 78,997. The attendance at the Castleton Normal School for the year 1888-'89 was 223, and for 1889-'90 230. At the Randolph Normal School the attendance was 117 for 1888-'89, and 165 for 1889-'90. The attendance at the Johnson Normal School each year was over 100.

Charities.—The State Insane Asylum at Brattleborough contained 455 patients at the close of the present fiscal year, although intended to accommodate only 400. The expenses for the year were \$200,649.10. The new asylum for which the Legislature of 1888 appropriated \$100,000 has been located at Waterbury, where buildings to accommodate about 150 patients are in process of erection. The State supports at institutions outside of its borders deaf, dumb, blind, and feeble-minded youth, the cost for the last two years being \$12,552.96, and the total number supported being 29 in 1889 and 26 in 1890.

Prisons.—The average number of convicts in the State Prison for the past two years has been 86. The expense of maintenance during that period was \$33,276.28, and the earnings of convict labor were \$20,056.60, making the net cost to the State \$13,219.68. At the House of Correction the average number of inmates for the period was 63, the total expenses \$16,324.02, the earnings of prisoners \$12,501.64, and the net cost \$3,822.38.

Banks.—The report of the Inspector of Finance for the year ending June 30 shows that the number of savings banks and trust companies remains the same as in 1889, there being 20 of the former and 11 of the latter. The amount loaned by them on mortgages of real estate in Vermont is \$4,378,710.19, an increase during the year of \$389,124.91. The amount loaned on mortgages of real estate elsewhere is \$7,519,470.66, an increase of \$300,809.34. Loans on personal security are \$2,106,180.48, an increase of \$273,098.22. Loans to towns and villages are \$187,688.24, a decrease of \$27,509.37, and loans on bank stock are \$155,886.92, an increase of \$4,175.92. The number of depositors is 65,759, an increase of 4,000 since 1889. The average to each depositor is \$293.96, and the average per capita of the population of the State is \$58.22.

Immigration.—Early in the year Commissioner Valentine received advices that the agent sent by him to Sweden in 1889 had induced about thirty families to emigrate from that country to Vermont. They arrived at Philadelphia late in April, and were settled on lands secured for them in the towns of Weston, Wilmington, and Vershire, the larger portion going to Vershire. About the same time, under private auspices, a considerable colony of Scandinavians was settled at Norton Mills. In a report to the Legislature in October, the commissioner expressed strong faith in the success of this colonization scheme. His report also presented a series of statistics, showing that there are in the State at least 1,000 vacant farms, containing 118,000 acres, which can be bought at from \$3 to \$5 an acre. Nearly all of these farms contain buildings in fair condition. The efforts of the commissioner, although thus far experimental, were not favorably received by the Legislature. It conceived that his efforts had resulted only in advertising the barrenness and cheapness of Vermont lands, and that further continuance of the office would injure the interests of the State. A bill was therefore passed abolishing the office, and no other provision was made to attract immigration.

Political.—The political canvass of this year was opened by the Democrats, who, in State convention at Burlington, on May 29, nominated the following ticket: For Governor, Herbert F. Brigham; for Lieutenant-Governor, George W. Smith; for Secretary of State, George F. O. Kimball; for Treasurer, Don C. Pollard; for Auditor of Accounts, Elisha May. The following is a portion of the platform:

We declare ourselves emphatically in favor of a ballot-reform law similar to those already proved beneficial in other States, which shall give to our citizens the privilege of a secret ballot.

We oppose the present prohibition law of this State, and declare ourselves in favor of a stringent local license law in its stead.

The Republican State Convention was held at Montpelier on June 19. For the gubernatorial nomination there was an earnest contest between Lieut.-Gov. Woodbury and Carroll S. Page, which resulted in the success of the latter. On the first ballot in the convention Page received 386 votes and Lieut.-Gov. Woodbury 337. For Lieutenant-Governor, Henry A. Fletcher was nominated; for Treasurer, Henry F. Field; and for Secretary of State, Chauncey W. Brownell, Jr. State Auditor Powell was the only candidate who obtained a renomination. The platform contained the following:

In the present depressed condition of agricultural and other interests, we believe it to be the duty of the farmers of the State to choose representatives to the coming Legislature who will advocate the appropriation of no more money than is demanded by the actual needs of the State, to the end that industry may be relieved of all unnecessary taxation.

The Prohibition party met in convention at Burlington on July 10, and placed the following ticket in the field: For Governor, Edward L. Allen; Lieutenant-Governor, Gardner S. Fassett; Treasurer, E. H. Field; Secretary of State, W. P. Stafford; Auditor, H. C. Barnes. The resolutions declare that the prohibitory law does not increase the burden of taxation; that the Australian bal-

lot law, or its equivalent, should be adopted; that the work of the Woman's Christian Temperance Union deserves commendation; that "all combinations of capital to increase the cost of products for popular consumption" are to be opposed; and that the recent "original-package" decision makes prohibition a national question.

The election, which took place on Sept. 2, resulted in the success of the Republican ticket by a reduced majority. For Governor, Page received 33,462 votes; Brigham, 19,299; and Allen, 1,161. For Lieutenant-Governor, the vote was: Fletcher, 35,690; Smith, 18,280; and Fassett, 1,068. Members of the Legislature were elected at the same time as follow: Senate, Republicans 29, Democrats 1; House, Republicans 172, Democrats 62, Independents and Farmers' League 5. Two Republican members of Congress were chosen.

VIRGINIA, a Southern State, one of the original thirteen, ratified the Constitution June 25, 1788; area, 42,450 square miles. The population, according to each decennial census, was 747,610 in 1790; 880,200 in 1800; 974,600 in 1810; 1,065,116 in 1820; 1,211,405 in 1830; 1,239,797 in 1840; 1,421,661 in 1850; 1,596,318 in 1860; 1,225,163 in 1870; 1,512,565 in 1880; and 1,655,980 in 1890. Capital, Richmond.

Government.—The following were the State officers during the year: Governor, Philip W. McKinney, Democrat; Lieutenant-Governor, J. Hoge Tyler; Secretary of State, H. W. Flournoy; First Auditor, Morton Marye; Second Auditor, Frank G. Ruffin; Treasurer, A. W. Harmon; Attorney-General, R. Taylor Scott; Superintendent of Public Instruction, John E. Massey; Commissioner of Agriculture, Thomas Whitehead; Railroad Commissioner, James C. Hill; President of the Supreme Court, Lunsford L. Lewis; Judges, B. W. Lacy, Robert A. Richardson, Drury A. Hinton, and T. T. Fauntleroy.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Accomac.....	24,405	27,277	2,869
Albemarle.....	82,618	82,879	* 299
Alexandria.....	17,346	18,597	1,051
Alleghany.....	5,586	9,259	3,667
Amelia.....	10,877	9,068	* 1,809
Amherst.....	18,709	17,561	* 1,158
Appomattox.....	10,081	9,569	* 509
Augusta.....	85,710	87,005	1,295
Bath.....	4,482	4,587	105
Bedford.....	81,205	81,218	8
Bland.....	5,004	5,129	125
Botetourt.....	14,869	14,554	45
Brunswick.....	16,707	17,245	558
Buchanan.....	8,604	8,867	263
Buckingham.....	15,540	14,883	* 1,157
Campbell.....	86,250	41,087	4,867
Caroline.....	17,248	16,681	* 569
Carroll.....	18,823	18,467	2,174
Charles City.....	5,512	5,066	* 446
Charlotte.....	16,658	15,077	* 1,578
Chesterfield.....	25,085	26,211	1,126
Clarke.....	7,682	8,071	389
Craig.....	8,794	8,855	41
Culpeper.....	18,408	18,258	* 155
Cumberland.....	10,540	9,492	* 1,058
Dickenson.....	.....	5,077	5,077
Dinwiddie.....	82,570	86,195	3,825
Elizabeth City.....	10,689	16,168	5,479
Essex.....	11,082	10,047	* 955
Fairfax.....	16,025	16,655	680

COUNTIES.	1880.	1890.	Increase.
Fauquier.....	22,998	22,560	• 408
Floyd.....	18,255	14,405	1,150
Fuvanna.....	10,802	9,608	• 1,294
Franklin.....	23,984	24,985	• 99
Frederick.....	17,558	17,880	827
Giles.....	8,794	9,099	296
Glooucester.....	11,876	11,675	• 229
Goodland.....	10,292	9,956	• 394
Grayson.....	13,068	14,894	1,826
Greene.....	5,880	6,622	• 208
Greensville.....	8,407	8,280	• 177
Halifax.....	38,588	34,424	856
Hanover.....	18,588	17,492	• 1,186
Henrico.....	82,703	103,894	20,691
Henry.....	16,009	18,208	2,199
Highland.....	5,164	5,552	388
Isle of Wight.....	10,572	11,813	741
James City.....	5,422	5,643	221
King and Queen.....	10,502	9,609	• 893
King George.....	6,897	6,641	• 244
King William.....	8,751	9,605	854
Lancaster.....	6,160	7,191	1,031
Lee.....	15,116	18,216	3,100
Loudoun.....	23,634	23,274	• 360
Louis.....	15,942	16,997	• 1,045
Lunenburg.....	11,365	11,872	• 162
Madison.....	10,462	10,225	• 387
Mathews.....	7,501	7,584	83
Mecklenburg.....	24,610	25,829	749
Middlesex.....	6,252	7,458	1,206
Montgomery.....	16,698	17,742	1,049
Nansemond.....	15,908	19,692	3,789
Nelson.....	16,586	15,836	• 1,200
New Kent.....	5,515	5,511	• 4
Norfolk.....	58,657	77,088	18,881
Northampton.....	9,152	10,813	1,161
Northumberland.....	7,929	7,885	• 44
Nottoway.....	11,156	11,582	426
Orange.....	18,052	12,814	• 338
Pago.....	9,965	13,092	3,127
Patrick.....	12,883	14,147	1,314
Pittsylvania.....	52,589	59,941	7,352
Powhatan.....	7,517	6,791	• 1,026
Prince Edward.....	14,668	14,694	26
Prince George.....	10,054	7,752	• 2,182
Princess Anne.....	9,394	9,510	116
Prince William.....	9,180	9,805	625
Pulaski.....	8,755	12,790	4,035
Rappahannock.....	9,291	8,678	• 613
Richmond.....	7,195	7,146	• 49
Roanoke.....	13,105	30,101	16,996
Rockbridge.....	20,008	23,062	3,059
Rockingham.....	29,567	31,299	1,732
Russell.....	13,906	16,126	2,220
Scott.....	17,283	21,694	4,461
Shenandoah.....	18,304	19,671	1,467
Smyth.....	12,160	13,660	1,500
Southampton.....	18,012	20,078	2,066
Spottsylvania.....	14,288	14,233	• 495
Stafford.....	7,211	7,862	151
Surry.....	7,891	8,256	365
Sussex.....	10,062	11,100	1,038
Tazewell.....	12,861	19,399	7,638
Warren.....	7,369	8,280	881
Warwick.....	2,258	6,650	4,392
Washington.....	23,393	29,029	5,617
Westmoreland.....	8,346	8,395	• 447
Wise.....	7,772	9,345	1,573
Wythe.....	14,818	18,019	3,701
York.....	7,349	7,566	247
Total.....	1,512,765	1,655,980	143,415

* Decrease.

Finances.—There were several important developments in the State debt controversy during the year. Early in January the Governor received a letter from the council of foreign bondholders, expressing their desire to put an end to the protracted contest with the State, and intimating that a compromise might be possible, especially as the State had been growing in wealth. It was suggested that duly accredited representatives of the State be selected to treat with the council, either at London or at Richmond. This letter was submitted by the Gov-

ernor to the General Assembly, with the recommendation that commissioners be appointed. But he declared his belief that the State was not able to offer the bondholders a more liberal settlement than that of the Riddleberger act, although some variations from its terms, not less favorable to the State, might be advisable. The General Assembly, pursuant to the recommendation, promptly passed a resolution designating the Governor and two members of each House as commissioners to receive proposals for funding the whole debt; but it was required that every proposal should be accompanied by a cash deposit of \$1,000,000 as a guarantee of its fulfillment, and the commissioners were expressly forbidden to entertain any proposal that departed from the terms of the Riddleberger act of Feb. 14, 1882, unless the changes should be in favor of the State. This resolution showed no disposition on the part of the State to concede anything, and was therefore devoid of results.

The Assembly also passed a new series of acts designed, like the "coupon crusher" and other previous acts, to keep debt coupons out of the State treasury by indirect means, the State being unable legally to refuse such coupons when tendered for State dues. Of these acts, the following were intended to delay and obstruct the legal proceedings by which the genuineness of coupons tendered must be established before they are received: 1. An act allowing the Attorney for the State in coupon cases to demand a separate trial by jury for each case. 2. An act requiring all coupon cases pending in the county, corporation, or husting courts to be removed to the circuit courts, the expense of removal to be borne by both parties equally. 3. An act allowing the board of commissioners to employ additional counsel to assist the State attorneys in coupon cases. The other acts of the series were designed to discourage persons from offering their coupons. The first of these requires applicants for liquor licenses, at the time of their application, to deposit with the treasurer of the city or county the amount of the license fee either in money or coupons, and the treasurer shall indorse upon the application a certificate showing what kind of deposit has been made. The application shall then be referred to the proper local court as heretofore provided by law, except that in cities it shall be first referred to the local board of excise. These boards of excise, as provided in another act, shall be appointed for each city by a State excise commission consisting of the Auditor, Second Auditor, and Treasurer. They shall examine all applications for licenses referred to them, and may approve or disapprove them in their discretion. If the board approves, the application shall then go before the local court, as already provided by law. No application not so approved by the local excise boards shall be considered by the court. It is expected (though not intimated in the act) that the State board will appoint as members of the city boards of excise only such persons as will disapprove every application on which a certificate is made showing that the applicant has offered coupons in payment of his license. The excise boards are created only in cities, from which nearly all the offerings of coupons come. Another act requires that all licenses, the annual fee for which would

be \$50 or more (other than licenses requiring the certificate of a court before being granted), shall hereafter be issued only for three months, or for a shorter time, and the fee, being one fourth or less of the annual fee, shall be payable quarterly or oftener. The object of this act is to reduce the license fees, payable at each quarter, or other period, below \$15, and thereby to prevent almost entirely the use of coupons in payment. The number of tax-receivable coupons annually maturing is 49,387, valued at \$999,870, of which there are 23,695 of \$30 coupons, worth \$710,850; 17,500 of \$15 coupons, worth \$262,500; and only 8,192 of a lower denomination, worth only \$26,610. Under this law, the last-mentioned coupons alone would be available in payment of license fees.

County Debts.—The total debt of Virginia counties for 1890 was \$1,691,434, an increase of \$406,390 in ten years. All except \$35,500 of this amount is bonded. Nearly two thirds of the counties have no debt.

It was expected that these enactments would be effectual in checking the inflow of coupons, which had largely increased during 1888 and 1889. In January, while these measures were under discussion in the General Assembly, various cases involving the validity of much of its former legislation regarding the debt coupons were argued at length before the United States Supreme Court. The decision of that tribunal was rendered on May 19. After reviewing the history of the debt controversy, the court laid down the following propositions as clearly established by its former decisions:

1. That the act of 1871 constituted a contract between the State and the holders of bonds and coupons issued thereunder.

2. That the various statutes passed for the purpose of restraining the use of coupons for the payment of taxes and other dues to the State, and imposing impediments and obstructions to that use and to proceedings instituted for the purpose of establishing their genuineness, do in many respects materially impair the obligation of that contract, and can not be held to be valid in so far as they have that effect.

3. That no proceedings can be instituted by any holder of State bonds or coupons against the Commonwealth directly or indirectly by suit against her executive officers to control them in the exercise of their official functions as agents of the State.

4. That any lawful holder of tax-receivable coupons who tenders such coupons in payment of taxes or debts due the State and continues to hold himself ready to tender them is entitled to be free from molestation on account of such taxes or debts, and may vindicate such right in all lawful modes of redress by suit to recover property or to recover damages by property taken by injunction where the taking of the property would be attended with irreparable injury or by defense to any suit brought against him.

Applying these propositions to the several cases before it, the court considered first the cases of Bryan, Cooper, and McGahey *vs.* State of Virginia, where the point at issue was the constitutionality of those provisions of the "coupon crusher" and other acts that require the production of the original bond in coupon cases, in order to establish the genuineness of the coupons, and which prohibit the admission of expert testimony to prove such coupons. Regarding the production of the bond, the court declares: "We have no hesitation in saying that the duty im-

posed upon the tax payer of producing the bonds from which the coupons tendered by him were cut at the time of offering the same in evidence in court was an unreasonable condition, in many cases impossible to be performed. It would deprive the coupons of their negotiable character. It would make them fixed appendages to the bond itself. It would be directly contrary to the meaning and intent of the act of 1871 and the corresponding act of 1879. We think that the requirement was unconstitutional." The prohibition of expert testimony was likewise deemed unconstitutional, as imposing an unreasonable obstruction in the way of the tax payer who offers his coupons.

In the case of H. W. Ellett against the State, which was next taken up, the question was whether coupons could be tendered in payment of court costs, it being contended by the State that they could not, because the costs were compensation due the officers. The court holds that, although the costs were officers' compensation, they were due the State in consequence of its liability to pay its officers, and therefore were payable in coupons.

In the next case, Cuthbert *vs.* State of Virginia, the court decided that the act imposing on coupon brokers a license tax of from \$500 to \$1,000 and of 20 per cent. of all sales was invalid, the tax being so onerous as to amount in practice to a prohibition of the sale of coupons by any one, and being, therefore, an impairment of the original contract of the State, which made these coupons payable to the bearer and recognized their negotiability.

The case, *ex parte*, Brown, next considered presented the question of the constitutionality of the act of Feb. 27, 1886, which limited the time within which proceedings to prove coupons due and payable prior to July 1, 1888, should be begun to one year from the last-mentioned date. Upon this question it was affirmed that "the passage of a statute of limitations giving a shorter time for bringing actions than existed before, even as applied to actions which had accrued, does not necessarily affect the remedy to such an extent as to impair the obligation of the contract within the meaning of the Constitution, provided a reasonable time is given for the bringing of such actions." But in view of the large number of coupons outstanding, the distance of many of the holders from the State of Virginia, and the obstacles that the State had already interposed to prevent the reception of coupons, the court declared that one year was an unreasonably short period of limitation, and that the statute was therefore void. In each of these cases the decision of the Supreme Court of Virginia was reversed.

In the case of Hucless *vs.* Childrey, which was an action to recover damages for refusal of a tax collector to receive coupons in payment of a liquor license, the court affirmed the judgment of the United States District Court. The Virginia law required that this license should be paid in money, and the court held that this does not impair the contract of the bondholders. Licenses for liquor selling, it says, are not only imposed for the purpose of raising revenue, but also for the purpose of regulating the traffic. A State may for this purpose impose such condi-

tions as it may deem for the public good. It may prohibit the sale or require any amount of license. It could, if it saw fit, require the license to be paid in gold, silver, or diamonds.

The State also won the case of *Vashon vs. Greenhow*, in which the judgment of the Virginia Court of Appeals was affirmed. The question in this case was whether the school tax could be paid in coupons.

The State Constitution, adopted in 1869, two years prior to the act creating the bondholders' contract, created a separate school fund, which the Legislature was directed to keep intact. To this fund all sums raised for public schools should go, and from it the public schools should be supported. The court held that, as the coupons were useless in that fund for carrying on the public schools according to the constitutional requirement, the act of 1871 making the coupons receivable for all taxes was repugnant to that portion of the Constitution of 1869 relating to the school fund, and void to the extent that it attempted to make the coupons receivable for school taxes.

The State gained by these two decisions much more than was lost in the other cases. The school tax, according to the last report of the Treasurer, amounted to \$718,428.65, or one fourth of the *ad valorem* tax on property. The liquor-license tax aggregated \$284,709.73, or nearly as much as was derived from all other licenses. Both of these sums must now be paid in cash.

For several months after these decisions no further steps were taken in the debt controversy, but later in the year efforts were made to secure the assent of all the bondholders to certain propositions that should be submitted to the State as a basis of compromise. These negotiations had not fully matured at the close of the year.

A reassessment of property for purposes of State taxation was made this year, which resulted in adding to the taxable list the sum of \$24,237,832. This will add about \$92,000 to the annual State revenue. The total valuation of the State was fixed at \$290,432,232, against \$266,194,400 for 1889 and \$257,607,934.99 in 1885.

Legislative Session.—The regular biennial session of the General Assembly, which began early in December, 1889, terminated on March 1. Early in the session ex-Lieut.-Gov. John E. Massey was chosen Superintendent of Public Instruction *vice* John L. Buchanan resigned. The legislation upon the State debt question is considered above.

The interests of farmers were protected by the passage of an act under which every fertilizer company is required to pay annually to the Commissioner of Agriculture a registration fee of \$100, and to file a statement showing, among other things, a guaranteed analysis of each kind of fertilizer made or sold by the company. This analysis shall be stamped on all fertilizers sold in the State. The Commissioner of Agriculture is directed to procure from time to time samples of fertilizers sold in the State, to cause an analysis to be made, and to publish such analysis at his discretion. Any purchaser of fertilizers may require the seller, in his presence, to draw a fair sample from any package, which shall be sealed in the presence of both and forwarded to the commissioner, who shall cause an analysis to

be made and the results sent to both parties. If any analysis shall fall 10 per cent. below the guaranteed analysis, the further sale of such fertilizer shall be forbidden, and the purchaser, if he has paid, may recover the purchase money.

A law, designed to prevent the importation of meat into the State, was passed providing that all fresh meat which has been slaughtered 100 miles or more from the place where it is offered for sale shall be first inspected by local inspectors and pronounced suitable for sale. Such inspectors shall be paid one cent for every pound of meat inspected by them. A fine not less than \$50 nor more than \$100 shall be imposed upon persons selling in violation of these provisions.

An act regarding elections provides that "the judges of election, if it shall appear that voters are being intimidated or coerced from any source in the exercise of their suffrage by bystanders about the polling place, or that voters are being hindered or tampered with in any way so as to prevent the casting of a secret ballot, may order such person or persons . . . to cease from such action, or a majority of them may order the arrest of such person or persons," and their confinement in jail not over twenty-four hours. Upon later trial and conviction of the offense named in this act such persons shall be fined not less than \$100 nor over \$500.

Repeated attempts on the part of the State to obtain from the State of Tennessee a revision of the boundary line between the two States as fixed in 1803, having failed, the Legislature this year sought to force a new agreement by repealing the act of 1803 by which the boundary had been fixed and leaving the whole question open to litigation. Virginia claims that the line as run in 1803, by reason of defective instruments and incompetent surveyors, is several miles north of the true line of latitude 36° 30' agreed upon.

The sum of \$85,000 was appropriated annually for 1890 and 1891 to pension Confederate veterans, and \$38,290 for arrears of pensions.

So much of the law regarding the Colored Normal and Collegiate Institute, at Petersburg, as provides for its government by six colored persons appointed by the State Board of Education was repealed, and the Governor was given power to appoint a governing board of eight "fit and proper persons." The object of this legislation became apparent when the Governor, in March, appointed a board consisting entirely of white persons.

Other acts of the session were as follow:

To prevent the selling or furnishing of cigarettes or tobacco in any form, or pistols, dirks, or bowie knives, to minors under sixteen years of age.

Providing that every railroad company shall, on three days' notice, furnish transportation for all farm products delivered at a depot of such company, or shall have at the depot safe storage for the same, and that said company shall be responsible for damages resulting from failure to provide such transportation or storage.

Requiring the chemist appointed by the Commissioner of Agriculture to analyze, free of charge, samples of soil sent to him from any county, and to recommend what class of fertilizer each sample needs for the production of the staple crops.

Providing for the taxation of shares of bank stock in the county or city in which the bank is located.

Adding the 19th day of January (Gen. Robert E. Lee's birthday) to the list of legal holidays.

Allowing foreign manufacturing corporations to hold property and do business in the State.

To prohibit the loading and unloading of steamship and steambot cargoes on Sunday.

To cancel the indebtedness of Emory and Henry College to the State, and requiring the transfer to the latter of certain college property.

To prohibit the employment in factories of females and children under fourteen years more than ten hours in any day.

Convention of Colored Men.—A convention of the colored people of the State was called to meet at Richmond on April 15, at which about 75 delegates were present. The condition and needs of the colored race were discussed during a session of two days, and the following among other resolutions were adopted:

We recognize that the future prosperity of our race depends upon the moral and intellectual purity of our social life; and as much of the injustice of which we now complain is but the natural result of the contempt in which we are held by reason of our shortcomings in this direction, we would press upon the race the necessity of complete reform in the social impurities practiced by many and tacitly countenanced by all.

We regard the defeat of the Blair educational bill

by the United States Senate as a blow at popular education in the South.

We express our hearty dissent and unqualified disapproval of the acts of the present Legislature of Virginia in their efforts to cripple the already public provisions for negro education in this Commonwealth, as is evidenced by their election to the office of Superintendent of Public Instruction a man who has openly declared negro education to be a failure, and who contends that the negroes, though the laborers, are not real tax payers of the Commonwealth.

We condemn the Governor of this Commonwealth, a professed believer in the Christian faith, a pretended humanitarian, a product of the black belt, a putative friend of the negro, yet who signs a bill reducing the appropriation to the colored normal school, and also approves the measure removing colored men as trustees of the said school, in all of which acts the Governor is at violence with his former professed friendship for the negro.

The convention appointed a State executive committee, which was empowered to appoint committees for each congressional district.

Political.—There was no election for State officers during the year. In November ten Democratic members of Congress were elected. There was no Republican opposition in six of the districts.

W

WASHINGTON, a Pacific coast State, admitted to the Union Nov. 11, 1889; area, 69,180 square miles; population, according to the census of 1890, 349,390. Capital, Olympia.

Government.—The following were the State officers during the year: Governor, Elisha P. Ferry, Republican; Lieutenant-Governor, Charles E. Laughton; Secretary of State, Allen Weir; Treasurer, A. A. Lindsley; Auditor, T. M. Reed; Attorney-General, W. C. Jones; Superintendent of Public Instruction, R. B. Bryan; Commissioner of Public Lands, W. T. Forrest; Chief Justice of the Supreme Court, T. J. Anders; Associate Justices, Elmore Scott, R. O. Dunbar, T. L. Stiles, J. P. Hoyt.

Finances.—The receipts of the State treasury from Nov. 18, 1889 (the date on which the State government was inaugurated) to Oct. 31, 1890, aggregated \$663,667.01, the disbursements for the same period were \$627,928.82, and there remained a balance of \$35,738.19. The receipts of the general fund were \$607,419.58, and the disbursements \$603,274.92, leaving a balance of \$4,144.66. A bonded debt was created this year pursuant to an act of the Legislature passed in February. Bonds to the amount of \$300,000 were issued, and the proceeds were used to retire the Territorial debt assumed by the State. In addition to this debt there was outstanding on Oct. 31 the following floating indebtedness: General fund warrants unpaid \$234,658.31, interest on the same (estimated) \$5,076.60; military fund warrants unpaid \$34,028.25, interest on the same (estimated) \$1,243.08; the total floating indebtedness \$235,006.24. The liabilities of the State, bonded and floating, on Oct. 31, therefore amounted to \$575,006.24. The rate of State taxation for 1890 was three mills on the dollar.

Population.—The following table shows the population of the State by counties, as deter-

mined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Adams.....	.....	2,098	2,098
Asotin.....	.....	1,580	1,580
Chelan.....	921	9,249	8,328
Clallam.....	685	2,771	2,186
Clarke.....	5,490	11,799	6,319
Columbia.....	7,163	6,709	* 454
Cowlitz.....	2,062	8,917	6,855
Douglas.....	.....	8,161	8,161
Franklin.....	.....	696	696
Garfield.....	.....	8,897	8,897
Island.....	1,087	1,787	700
Jefferson.....	1,712	8,264	6,552
Knap.....	6,910	69,989	63,079
Klickitat.....	1,758	4,624	2,866
Kittitas.....	.....	8,777	8,777
Klickitat.....	4,935	5,167	1,112
Lewis.....	2,600	11,499	8,899
Lincoln.....	.....	9,812	9,812
Mason.....	639	2,826	2,187
Okanogan.....	.....	1,467	1,467
Pacific.....	1,645	4,858	3,213
Pierce.....	3,819	50,940	47,121
San Juan.....	948	2,672	1,724
Skaup.....	.....	8,747	8,747
Skuamiah.....	849	774	* 75
Snohomish.....	1,887	774	* 1,113
Spokane.....	4,262	37,487	33,225
Stevens.....	1,215	4,841	3,626
Thurston.....	8,270	9,675	1,405
Wahkiakum.....	1,598	2,566	968
Walla Walla.....	8,716	12,294	3,578
Whatcom.....	3,187	18,591	15,404
Whitman.....	7,614	19,709	12,095
Yakima.....	2,811	4,429	1,618
Total.....	75,116	849,390	774,274

* Decrease.

County Debts.—The total debt of Washington counties for 1890 was \$1,170,637, an increase of \$966,253 in ten years. The bonded debt was \$451,000, and the floating debt \$719,637.

Legislative Sessions.—The first session of the State Legislature, which began in November,

1889, was not concluded until March 28. One of its important results was the enactment of a ballot-reform law, which applies to all elections for public officers, except school and irrigation district officers and road overseers. All ballots shall be printed and distributed at the expense of the county, except in case of municipal elections, when the expense shall be borne by the city or town. Candidates for office nominated otherwise than by party conventions or primary meetings, in order to secure a place upon the official ballot, must obtain the signatures to their nomination papers of not fewer than 100 voters, when the office is to be filled by the voters of the entire State, and of at least 50 voters in other cases, except that when the office is to be filled by the voters of a township, precinct, or ward the signatures need not exceed 10. In municipal elections the municipal clerk, and in all other elections the clerk of the board of county commissioners shall prepare the official ballots and cause them to be distributed. Each ballot shall contain the name of every candidate, and the names shall be arranged under the designation of the office in alphabetical order according to surnames, except that the names of presidential electors belonging to the same party shall be grouped together. The voter shall indicate his choice by marking a cross before or after the name of the person for whom he intends to vote. He may also write upon the ballot, or paste over the name of any candidate, the name of any person for whom he wishes to vote. He may have an unofficial sample ballot to aid him in making his choice, but it must differ in form, material, and appearance from the official ballot.

By another act, a system of registration is provided in all cities and towns and all voting precincts, having a voting population of 250 or more, as shown by the vote cast at the preceding general election. A law for the government of primary elections was also enacted, but its provisions are not compulsory.

Provision was made for the establishment of several new State institutions. A State normal school was located at Ellensburg, and authority given to the trustees to accept gifts of land and money therefor, but no appropriation was made. Another normal school was located at Cheney, on condition that the land and building of the Benjamin P. Cheney Academy should be conveyed to the State for the use of such school. A State university was established at, or near Seattle, and the sum of \$10,000 appropriated therefor. This institution is entitled to hold as a permanent fund the proceeds of the sale of university lands granted to the State by the United States. An agricultural and mechanical college was established, provision made for its government, and the sum of \$5,000 appropriated therefor. The question of its location was left with a commission. A State reform school was also established and \$25,000 appropriated for land and buildings its location being left to commissioners. Provision was also made for the establishment of a State soldiers' home, and the sum of \$30,000 was appropriated therefor, the trustees being authorized to select a site. The sum of \$100,000 was appropriated to complete the State Insane Asylum at Medical Lake, and \$40,000 to complete the building for the School for Defective Youth.

A new law for the assessment and collection of taxes was passed, as well as a new law for the government of the public schools.

Other acts of the session were as follow :

Authorizing judges of the supreme courts, regularly ordained ministers and priests, and justices of the peace to solemnize marriages.

To prevent deception in dairy products.

For the preservation of large game. It shall be unlawful to hunt or chase deer with dogs, to hunt deer, mule deer, caribou, elk, mountain sheep, or goats for their hides or horns, or to hunt or kill for sale deer, mule deer, caribou, mountain sheep, goats, or elk after Jan. 1 or before Dec. 1.

For the protection of food fishes.

Empowering cities and towns organized prior to the adoption of the Constitution to extend their credit and fund their indebtedness for general municipal purposes.

Creating the office of State geologist.

Requiring the employers of female help in stores, offices, or schools to provide seats for such help.

To protect the title of the owners of floating logs, timber, and lumber.

Granting to railroad corporations the right to bridge the navigable streams of this State.

To provide for the compulsory education of defective youth at the State school for such children.

Creating a mining bureau.

Authorizing railroad corporations to acquire, own, negotiate, sell, and guarantee the stocks and bonds of corporations organized for the purpose of reclaiming arid land, and authorizing such railroad corporations to build, own, and operate irrigating ditches.

To provide for the appointment of a fish commissioner.

Designating William Lair Hill to compile, rearrange, and annotate the laws. The code is to contain the laws of 1881 and those passed at the session since, including the session of 1891.

To punish persons fraudulently selling mines or mining claims.

To secure creditors a just division of the estates of debtors who assign for the benefit of creditors. This act provides that no general assignment shall be valid unless made for the benefit of all creditors in proportion to the amount of their respective claims.

To provide for the organization, maintenance, and discipline of the militia of the State.

To create a board of harbor line commissioners.

On Aug. 25 Gov. Ferry issued a proclamation calling an extra session of the Legislature to meet on Sept. 3, for the purpose of enacting a new legislative-apportionment law based upon the national census of 1890. An apportionment bill was introduced at this session providing for the election of 34 Senators and 78 Representatives. After much debate this bill was adopted by both Houses and received the approval of the Governor. The session adjourned on Sept. 11.

Education.—During the school year ending in 1890, the number of pupils enrolled in the public schools was 55,964. This was only 62 per cent. of the total school population. The average daily attendance was only 67 per cent. of the number enrolled, and only 42 per cent. of the total school population. The value of school property in the State is estimated at \$2,000,359.11. During the year 146 new school buildings were erected. The total amount expended for educational purposes, including the compensation of county superintendents and the expense of the teachers' institutes, was \$963,890.22.

Of the various educational institutions established by the Legislature this year, only one, the

Cheney Normal School, which had 25 pupils at the close of the year, has been opened.

Charities.—At the Steilacoom Insane Asylum there were 303 patients on Oct. 1, 1889; 258 patients were admitted during the year following, and 183 discharged, leaving 378 patients in the asylum on Sept. 30, 1890. The total cost of maintaining the institution for the year was \$64,018.87, including improvements. The Insane Asylum at Medical Lake, in eastern Washington, is not yet ready for patients, but the buildings will be completed early in 1891. Buildings for the State School for Defective Youth were also in course of construction. Under the act of the first State Legislature approved March 26, the trustees of the State Soldiers' Home, established by that act, have located the institution at Orting, in Pierce County, and accepted a gift of 185 acres of land therefor.

Prisons.—On Sept. 30 there were 202 prisoners in the State Penitentiary at Walla Walla. Although about half of these were regularly employed, and the profits from their labor were considerable, especially in brick making, the cost to the State for the year was over 41 cents a day for each convict in excess of his earnings.

Under the act of the first State Legislature establishing a State reform school, the trustees have purchased 50 acres near Chehalis, in Lewis County, and procured the erection of buildings that will accommodate 100 inmates. These buildings were completed by the end of the year at a cost of \$23,904.78, the appropriation being \$25,000.

Coal.—The coal output of Washington for 1890 is estimated at 1,349,773 tons, against 911,527 tons in 1889.

Political.—On Aug. 28 a State convention of the Democratic party met at Seattle and nominated Thomas Carroll for member of Congress. A platform was adopted which demands the free coinage of silver, the continuation of the Chinese exclusion acts, preference for citizens of the United States in giving employment in public works, eight hours as a day's labor on such works, the setting aside as Labor Day of the first Monday in September; opposes laws that discourage agriculture, asks for legislation against trusts, and demands that all Government officers be elected by a direct vote of the people.

The Republican State Convention was held at Seattle on Sept. 5. It renominated Congressman John L. Wilson, and adopted a platform containing the following:

We recommend that a liberal portion of the income from the public lands deeded to the State for educational purposes be devoted to the better instruction of the pupils in the public schools in the useful arts, and that a free school of technology be established as soon as may be.

We demand the forfeiture of all unearned land grants and their restoration to the public domain for homestead only.

We demand that all Indians to whom the Government has patented lands in severalty shall be enabled to dispose of them at will.

We insist that the equitable claims of old settlers on account of Indian depredations be adjusted and promptly paid.

We favor the enactment of laws for the compilation, printing, and free distribution by the State of textbooks for our public schools.

We protest against the indiscriminate immigration or importation of ignorant, pauper, or criminal classes from any country, and we demand the enactment and enforcement not only of restrictive Chinese immigration laws, but of laws which will exclude all who come to lessen the dignity of labor, or are by nature, education, or inclination undeserving of the rights we ourselves enjoy.

We favor the amendment of the Constitution of the United States so as to permit the selection of United States Senators by direct vote of the electors of the State.

The Prohibition party in State convention nominated Robert Abernathy as its congressional candidate. At the election in November the Republican nominee was elected by a reduced majority, the vote being as follows: Wilson, 29,153; Carroll, 22,831; Abernathy, 2,819. At this election the people also voted for a permanent location of the State capital, their choice being restricted to the cities of Olympia, Ellensburg, and North Yakima. Olympia received 37,413 votes, Ellensburg 7,722, and North Yakima 6,276. A majority of the votes cast being in favor of Olympia, that city became the permanent capital. Seventeen members of the State Senate and the entire Lower House of the Legislature were chosen at the same time. Of the Senators, the Republicans elected 14, and the Democrats 3. To the Lower House 61 Republicans and 17 Democrats were elected.

WEST INDIES. See CUBA, HAYTI, SANTO DOMINGO, and under Colonies in DENMARK, FRANCE, GREAT BRITAIN, and NETHERLANDS.

WEST VIRGINIA, a Southern State, admitted to the Union June 19, 1863; area, 24,780 square miles. The population, according to each decennial census since admission, was 442,014 in 1870; 618,457 in 1880; and 762,794 in 1890. Capital, Charleston.

Government.—The following were the State officers during the year: Governor, A. B. Fleming, Democrat; Secretary of State, Henry S. Walker, succeeded by William A. Ohley; Treasurer, William G. Thompson; Auditor, Patrick F. Duffey; Attorney-General, Alfred Caldwell; Superintendent of Free Schools, Benjamin S. Morgan; President of the Supreme Court of Appeals, Adam C. Snyder, succeeded by Daniel B. Lucas; Judges, Henry Brannon, J. W. English, and H. A. Holt.

Finances.—For the fiscal year ending Sept. 30, 1889, the State treasury statement is as follows: Balance in all funds on Oct. 1, 1888, \$337,737.56; receipts from all sources during the year ensuing, \$1,158,537.60; expenditures for all purposes during the year, \$1,210,568.94; balance in all funds on Sept. 30, 1889, \$285,705.22. The balance in the State fund was \$41,731.22, in the general school fund \$240,928.15, and in the school fund \$3,045.85. For the year ending Sept. 30, 1890, the corresponding statement is as follows: Balance in all funds on Oct. 1, 1889, \$285,705.22; total receipts for the year ensuing, \$1,206,418.36; total expenditures for the year, \$1,040,542.75; balance in all funds on Sept. 30, 1890, \$451,590.83. The balance in the State fund was \$127,532.13, in the general school fund \$292,476.39, and in the school fund \$31,572.31.

There is no permanent State debt, but the State has borrowed from time to time various sums from its irreducible school fund to meet

casual deficiencies of revenue. On Sept. 30, 1890, the sums so borrowed and not repaid amounted to \$184,511.48. Before the end of the year this debt had been reduced by payments to \$101,170, and it is expected that this balance will be wiped out within the next two years.

The assessed valuation of property in the State for 1890 was \$187,165,353, an increase of about \$8,000,000 in two years. The value of railroad property for 1890, included in these figures, was \$17,237,766.61, an increase of \$1,700,000 in two years. The rate of State taxation is 35 cents on each \$100.

County Debts.—The total debt of West Virginia counties for 1890 was \$1,023,887, an increase of \$431,107 in ten years. The bonded debt was \$895,162, the floating debt \$128,725.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Harbour.....	11,870	12,702	832
Berkeley.....	17,380	18,702	1,322
B Boone.....	5,824	6,885	1,061
Braxton.....	9,787	13,928	4,141
Brooke.....	6,918	6,660	647
Cabell.....	13,744	28,405	9,851
Calhoun.....	6,426	8,153	2,088
Clay.....	3,460	4,659	1,199
Doddridge.....	10,552	12,183	1,631
Fayette.....	11,560	20,542	8,982
Gilmer.....	7,108	9,746	2,638
Grant.....	5,542	6,802	1,260
Greenbrier.....	15,060	18,094	2,974
Hampshire.....	10,866	11,419	1,058
Hancock.....	4,882	6,414	1,582
Hardy.....	6,794	7,567	773
Harrison.....	20,181	21,919	1,738
Jackson.....	16,812	19,021	2,709
Jefferson.....	15,005	15,538	548
Kanawha.....	32,466	42,756	10,290
Lewis.....	18,269	15,495	2,626
Lincoln.....	8,739	11,246	2,507
Logan.....	7,329	11,101	3,772
McDowell.....	3,074	7,300	4,226
Marion.....	17,198	20,721	3,523
Marshall.....	18,480	20,735	1,865
Mason.....	22,293	22,668	670
Mercer.....	7,467	16,092	8,625
Mineral.....	8,600	12,085	3,485
Monongalia.....	14,985	15,705	720
Monroe.....	11,501	13,429	928
Morgan.....	5,777	6,744	967
Nicholas.....	7,223	9,309	2,086
Ohio.....	37,457	41,757	4,300
Pendleton.....	8,022	8,711	689
Pleasants.....	6,256	7,539	1,283
Pocahontas.....	5,991	6,814	1,223
Preston.....	19,091	20,535	1,544
Putnam.....	11,875	14,342	2,967
Raleigh.....	7,267	9,597	2,290
Randolph.....	8,102	11,683	3,581
Ritchie.....	18,474	16,621	8,147
Roane.....	12,184	15,908	3,719
Summers.....	9,038	13,117	4,084
Taylor.....	11,455	12,747	692
Tucker.....	8,151	6,459	8,368
Upshur.....	11,073	11,962	889
Tyler.....	10,249	12,714	2,465
Wayne.....	14,789	18,652	3,913
Webster.....	8,207	4,783	1,776
Wetzel.....	13,896	16,441	2,945
Wirt.....	7,104	9,411	2,307
Wood.....	25,006	28,612	3,606
Wyoming.....	4,822	6,247	1,925
Total.....	618,457	762,794	144,337

The population for 1890 by races is as follows: White, 729,262; colored, 33,508; Chinese, 16; Indians, 8.

Legislative Session.—A special session of the Legislative Assembly met at Charleston on Jan. 15, pursuant to a call issued by Gov. Wilson in December. The call specified 37 subjects for legislation, only a few of which were considered. The most important duty of the session was to determine the contested election between A. B. Fleming and Nathan Goff for the office of Governor. Two reports were presented by the investigating committee appointed at the preceding session—a majority report in favor of Fleming, signed by the Democratic members, and a minority report in favor of Goff, signed by the Republican members (see "Annual Cyclopaedia" for 1889, page 824). Exhaustive arguments were made before the Assembly in support of each report, Gen. Goff appearing among others in his own behalf. When the vote was taken, the legislators divided on strict party lines, and by a vote of 43 to 40 Fleming was declared elected.

Growing out of the charges of bribery and fraud made by each party during this contest, an act was passed designed to insure purer elections. It was made an offense for any candidate, directly or indirectly, to loan, pay, give, or promise to loan, pay, or give, any money or other thing of value to any delegate, or to furnish or pay the transportation or expenses of any delegate to any convention in order to obtain or influence his vote, or to loan, give, directly or indirectly, or offer or promise to loan or give, any money or anything of value to any elector, for the purpose of influencing or retaining his vote, or to induce him to labor or refrain from laboring for such candidate, or to refrain from laboring for any other candidate, or for the purpose of unduly influencing voters in any way. It is made an offense for any person to hire any person to work for the nomination of any person to office or for the selection of any delegate to be chosen at any party caucus or convention, or to hire any person to work at the polls on election day for any candidate. Any use of money by any person, or any promise of money, for the purpose of influencing the choice of electors or to induce them to remain away from the polls is made unlawful. A severe penalty is imposed upon unauthorized persons who tamper in any way with the ballot boxes during or after any election or with any packages or receptacles containing ballots duly cast at any election, or with any tally sheet, poll book, or election returns. An Australian ballot bill passed the Senate, but failed in the House. Other acts of the session, which adjourned on Feb. 26, were as follow:

Providing that where the line of any railroad company has been constructed through any county or counties wholly by subscription of such county or counties to its capital stock, such railroad company shall not sell or convey its franchise to any other company without the consent of the county court of the county or counties through which the line has been so constructed.

Amending the game law.

Providing for the settlement of the disputed boundary between Maryland and West Virginia by arbitrators.

Education.—For the school year ending in 1890, the following public-school statistics are reported by the State Superintendent: School

population, 266,326; average daily attendance, 121,700; number of teachers employed, 5,491; amount of teachers' salaries, \$832,961.52; whole number of school-houses, 4,814; value of school property, \$2,483,528; irreducible school fund, \$620,011.48; general school fund, \$300,431.23; total cost of maintaining the schools for the year, \$1,293,164.98.

The State University is reported to be prosperous. There was an attendance of 208 students during the school year 1889-'90. The annual cost to the State for its maintenance is about \$50,000.

Charities.—At the State Hospital for the Insane there were 879 patients on Sept. 30. For the year ending on that day 233 patients were admitted to the institution, 86 died, and 62 were discharged as cured. The daily average was 876. The regular annual expenses are about \$120,000. The second hospital for the insane, for which buildings have been in process of construction, needs an appropriation of about \$25,000.

Reform School.—This useful institution was opened in July, and before the end of December had received 15 inmates. An annual appropriation of \$15,000 is needed for it.

Coal.—In 1880 the State produced 1,558,000 short tons of coal, while in 1890 the production approximated 5,359,000 tons, an increase of 285 per cent. In 1880 comparatively no coke was produced; so small was the quantity that there is no estimate. In 1888 the coke product was 516,981 tons; in 1889 it was 665,193 tons, and in 1890 it approximated 1,000,000 tons. The State has advanced since 1880 from seventh to fourth rank among the coal-producing States of the Union, and attained to second rank in the production of coke.

Political.—A Judge of the Supreme Court, half of the State Senators, and all the members of the House of Delegates were to be chosen at the November election. On Aug. 13 a State convention of the Democratic party met at Grafton and nominated Judge Daniel B. Lucas for the judicial office. The platform includes the following:

We favor continued efforts for ballot reform and purity of elections, and we commend the Democrats of our last Legislature for their united and earnest efforts in favor of ballot reform, in spite of the successful opposition of the Republicans.

At the election held in this State on Nov. 6, 1888, great frauds were committed upon the ballot by the Republican party, and in order to establish the will of a majority of the honest and legal voters at said election, the expense of a contest for the office of Governor was made necessary, and we commend the action of our State Executive Committee in instituting and carrying to a successful termination the contest for that office.

The Republican State Convention met at Martinsburg on Aug. 20 and nominated F. M. Reynolds as its judicial candidate. The platform discusses local issues as follows:

We favor the adoption of such a voting system as shall afford adequate protection to the elective franchise.

We arraign the Democracy of West Virginia for a series of crimes against the liberties of the people without a parallel in the history of this country. We charge them with deliberately violating the Constitution of the State in refusing to open and publish the returns for Governor in the late election.

We charge them with criminal disregard of the wishes of the voters of this State as expressed in their choice of Governor at that election, by which action the rightfully and legally elected chief magistrate was deprived of his office, and a man who was not elected and who is not the choice of the people was installed in the position. And this the Democratic party accomplished at enormous cost to the tax payers of West Virginia.

We charge them with the attempted theft of three seats in the United States House of Representatives, with the aid of a subservient tool wielded by desperate political tricksters, and by means of theft and bribery, infamous subterfuges, and disregard of the decisions of courts and other properly constituted legal bodies, certificates were awarded to three defeated candidates.

The Prohibitionists placed a judicial candidate in the field in the person of D. D. Johnson. At the election, which resulted in the success of the Democratic ticket, the following vote was cast: Lucas, 78,534; Reynolds, 70,197; Johnson, 898. Of the 13 State Senators elected, 10 were Democrats and 3 Republicans. The 13 hold-over Senators were divided politically as follow: Republicans 7, Democrats 6. The Democrats elected 44 members of the House of Delegates, and the Republicans 21. Four Democratic members of Congress were elected.

WISCONSIN, a Western State, admitted to the Union May 29, 1848; area, 56,040 square miles. The population, according to each decennial census since admission, was 305,391 in 1850; 775,881 in 1860; 1,054,670 in 1870; 1,315,497 in 1880; and 1,686,880 in 1890. Capital, Madison.

Government.—The following were the State officers during the year: Governor, William D. Hoard, Republican; Lieutenant-Governor, George W. Ryland; Secretary of State, Ernst G. Timme; Treasurer, Henry B. Harshaw; Attorney-General, Charles E. Estabrook; Superintendent of Public Schools, Jesse B. Thayer; Railroad Commissioner, Atley Peterson; Insurance Commissioner, Philip Cheek, Jr.; Chief Justice of the Supreme Court, Orsamus Cole; Associate Justices, Harlow S. Orton, John B. Cassoday, William P. Lyon, and David Taylor.

Finances.—The balance in the general fund of the State treasury on Oct. 1, 1889, was \$271,542.63; the total receipts for the year ensuing were \$2,195,716.13; the total disbursements were \$2,121,369.73; and there remained a balance of \$345,895.03 on Sept. 30, 1890. The receipts were derived from the following sources: From taxes on property, \$1,012,867; from fire and life insurance companies, \$89,017.07; from railway companies, \$1,008,559.04; from telegraph companies, \$7,775.77; from official fees, \$31,335.55; from miscellaneous sources, \$46,161.70.

The treasury statement, covering the general fund and all other funds for the year is as follows: Balance on Oct. 1, 1889, \$798,800; receipts for the year, \$3,742,936; disbursements, \$3,603,079; balance on Sept. 30, 1890, in all funds, \$938,657. Of this balance the general fund, as above stated, had \$345,895.03, the School fund \$394,777.14, the Normal School fund \$126,091.05, and the remainder was divided among numerous minor funds.

The bonded debt of the State, which was created during the civil war, now consists entirely of certificates of indebtedness held by the vari-

ous permanent trust funds of the State and distributed among them in the following proportions: School fund, \$1,563,700; Normal School fund, \$515,700; University fund, \$111,000; Agricultural College fund, \$60,000; total debt, \$2,250,400.

Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population for 1880:

COUNTIES.	1880.	1890.	Increase.
Adams.....	6,741	6,899	148
Ashland.....	1,569	20,068	18,504
Barron.....	7,024	15,416	8,392
Bayfield.....	764	7,390	6,626
Brown.....	34,075	39,164	5,086
Buffalo.....	15,928	15,997	469
Burnett.....	8,140	4,899	1,256
Calumet.....	16,632	16,099	7
Chippewa.....	18,491	23,143	9,652
Clark.....	10,715	17,708	6,993
Columbia.....	28,065	28,350	285
Crawford.....	15,644	15,987	343
Dane.....	53,283	60,578	6,345
Dodge.....	45,931	44,954	* 947
Door.....	11,645	15,652	4,087
Douglas.....	655	13,466	12,813
Dunn.....	16,817	22,664	5,847
Eau Claire.....	19,993	30,678	10,680
Florence.....	.....	2,604	2,604
Fond du Lac.....	46,859	44,088	* 2,771
Forrest.....	.....	1,012	1,012
Grant.....	37,552	36,651	* 1,201
Green.....	21,729	22,732	1,003
Green Lake.....	14,483	15,168	685
Iowa.....	25,628	22,117	* 1,511
Jackson.....	13,255	15,797	2,542
Jefferson.....	32,150	33,530	1,374
Juneau.....	15,929	17,121	1,399
Kenosha.....	18,750	15,581	2,081
Keweenaw.....	15,807	16,133	346
La Crosse.....	27,073	38,801	* 11,728
Lafayette.....	21,279	20,265	* 1,014
Laporte.....	685	9,465	8,780
Langlade.....	2,011	12,008	9,997
Lincoln.....	37,505	37,581	826
Manitowoc.....	17,121	30,369	13,248
Marathon.....	5,929	20,304	14,375
Marquette.....	9,993	9,673	768
Milwaukee.....	138,537	236,101	97,564
Monroe.....	21,607	23,211	1,604
Oconto.....	9,848	15,009	5,161
Oneida.....	.....	5,010	5,010
Ontonagon.....	28,716	38,690	9,974
Ozaukee.....	15,461	14,943	* 518
Peplin.....	6,226	6,932	706
Pierce.....	17,744	20,885	2,641
Polk.....	10,018	12,965	2,950
Portage.....	17,731	24,798	1,067
Price.....	785	5,258	4,473
Racine.....	30,922	36,268	5,346
Richland.....	18,174	19,121	947
Rock.....	38,823	43,220	4,397
Saint Croix.....	18,956	23,139	4,183
Sauk.....	28,729	30,575	1,846
Sawyer.....	.....	1,977	1,977
Shawano.....	10,371	19,236	8,865
Sheboygan.....	34,306	42,439	8,133
Taylor.....	2,311	6,731	4,420
Trempealeau.....	17,189	18,929	1,731
Vernon.....	23,235	25,111	1,876
Walworth.....	26,249	27,860	1,611
Washington.....	.....	2,926	2,926
Waukesha.....	23,442	22,751	* 691
Waupaca.....	28,957	33,270	4,313
Waushara.....	20,365	26,794	6,429
Winnebago.....	12,687	18,407	5,720
Wood.....	42,740	40,497	2,243
Wood.....	8,981	18,127	9,146
Total.....	1,315,497	1,686,580	371,083

* Decrease.

Assessments.—The assessed valuation of property in the State, as equalized in 1890 by

the State board, was \$592,890,719, of which the value of personal property was \$128,108,482, of city and village lots \$161,172,862, and of other realty \$303,609,375. The assessment of personal property includes 438,245 horses, valued at \$17,405,893; 1,400,922 cattle, valued at \$13,319,786; 5,985 mules, valued at \$199,544; 817-125 sheep, valued at \$1,147,289; 663,751 swine, valued at \$1,552,886. The rate of State taxation for the year was 15-4 cents.

County Debts.—For 1890 the total debt of Wisconsin counties was \$1,681,256, a decrease of \$610,998 in ten years. All of this total, except \$66,078, is a bonded debt. One third of the counties have no debt.

Education.—The report of public schools for the year ending in 1890 is as follows: School population between four and twenty years, 502,755; between seven and fourteen years, 294,950; number of children enrolled in public schools, 350,342; teachers employed—male 2,388, female 9,649; average monthly wages outside of the large cities—male teachers \$43.50, female teachers \$29; number of school-houses, 6,470. Including the cost of maintaining the normal schools, the State University, and other expenses, the total cost of maintaining all public institutions of learning in the State was \$4,258,463.51.

Early in the year the State Supreme Court decided that the Bible could not be lawfully read in the public schools, and in November the people by their ballots decided that the Bennett law of 1889, compelling attendance upon the public schools and requiring instruction therein to be given in the English language, should be erased from the statute book. The decision of the Supreme Court was rendered on March 19 in the case of Weiss vs. the Edgerton School Board, and contained the following:

Some of the most valuable instruction a person can receive may be derived from reading alone, without any comment or exposition of the question; and therefore the question seems to narrow down to this: Is the reading of the Bible in the schools, not merely of selected passages therefrom, but the whole of it, sectarian instruction of the pupils in view of the facts already mentioned that the Bible contains numerous doctrinal passages, upon some of which the peculiar creed of almost every religious sect is based, and that such passages may reasonably be understood to inculcate the doctrines predicated upon them. An affirmative answer to the question seems unavoidable. Any pupil of ordinary intelligence who listens to the reading of doctrinal portions of the Bible will be more or less instructed thereby in the doctrines of the divinity of Jesus Christ, the eternal punishment of the wicked, the authority of the priesthood, the binding force of the efficacy of the sacraments, and many other conflicting sectarian doctrines.

The Bennett law was first attacked by the Lutherans and Catholics, who saw in it an attempt to destroy parochial schools. Their complaints were taken up by the Democratic party, which made the repeal of the law one of its platform principles, and the merits of the question thereupon became linked with considerations of party policy. The law was the leading topic of discussion in the canvass, and educational and sectarian questions were considered by the people throughout the State as never before. The result of the controversy was a defeat for the supporters of the law.

Insane.—At the State and county insane hospitals and asylums the population on Dec. 1 was as follows: State Hospital for the insane, 533; Northern Hospital, 608; Milwaukee Hospital, 243; Brown County Asylum, 92; Columbia, 53; Dane, 100; Dodge, 87; Fond du Lac, 105; Grant, 103; Green, 71; Iowa, 100; Jefferson, 100; La Crosse, 102; Manitowoc, 90; Milwaukee, 121; Outagamie, 93; Racine, 75; Rock, 77; Sauk, 51; Sheboygan, 83; Vernon, 100; Walworth, 71; Winnebago, 70; total, 3,131. In addition to the maintenance of the State hospitals, the State also gives aid to county asylums.

State Prison.—Concerning prison labor, the governing board of this institution says: "During the year ending Sept. 30, 1890, the number of convicts daily employed on contract in the manufacture of boots and shoes was 64.26 per cent. of the whole number in the prison, and the earning of the convicts for the year was \$60,220.10. The board is convinced that any change from this method of employing the prisoners would be to the detriment of all the public interests involved, would in no respect improve the present condition or prospects of the convicts, or result in any appreciable advantage to private enterprises or organized trades."

Railroads.—The report of the State Railroad Commissioner for the year ending June 30, shows that the cost of constructing the railroads in the State was \$224,052,218, including equipments. Their total capital stock in 1890 was \$112,431,124, their funded debt \$140,852,100, and their unfunded debt \$7,364,211. The total gross earnings for the year were \$26,451,564, and the operating expenses \$16,737,745.

Political.—The first State ticket in the field this year was nominated by the Prohibitionists in convention at Madison on July 22, and contained the following names: For Governor, Charles Alexander; for Lieutenant-Governor, William R. Nethercut; for Secretary of State, George McKerron; for Treasurer, Robert Fargo; for Attorney-General, Byron E. Van Keuren; for Superintendent of Public Instruction, Henry Lummis; for Railroad Commissioner, John Q. Black; for Insurance Commissioner, Andrew Peterson. In addition to the usual anti-license resolutions, the following appear in the platform:

We favor a liberal public education in the English language, enforced and supervised by the State, as embodied in the Bennett law.

We declare that no citizen should be denied the right of suffrage on account of sex.

We protest against the exclusion of the Bible from the public schools, and request its restoration.

The Republican State Convention met at Milwaukee on Aug. 20, and re-nominated Gov. William D. Hoard. The following persons were selected as his associates upon the ticket: For Lieutenant-Governor, Joseph B. Treat; for Secretary of State, Edwin D. Coe; for Treasurer, Albert B. Geilfuss; for Attorney-General, James O'Neill; for Superintendent of Public Instruction, Lorenzo D. Harvey; for Railroad Commissioner, Sver E. Brimi; for Insurance Commissioner, David Schreiner. The platform is largely devoted to local issues, upon which the following declarations are made:

The Republican party, in convention assembled, declares its devotion to the common school as the

chief factor in the education of the people, and pledges itself to support, strengthen, and defend it.

It recognizes as valuable auxiliaries in the work of popular education the private and parochial schools supported without aid from public funds, and disclaims absolutely any purpose whatever to interfere in any manner with such schools, either as to their terms, government, or branches to be taught therein.

We believe that the compulsory education law passed by the last Legislature is wise and humane in all its essential purposes, and we are opposed to its repeal; but at the same time we assert that the parent or guardian has the right to select the time of the year and the place, whether public or private and wherever located, in which his child or ward shall receive instruction, and we pledge ourselves to modify the existing law so that it shall conform to the foregoing declarations.

On Aug. 27 the Democratic State Convention met at Milwaukee and nominated the following ticket: For Governor, George W. Peck; for Lieutenant-Governor, Carl Jonas; for Secretary of State, Thomas J. Cunningham; for Treasurer, John Hunner; for Attorney-General, James L. O'Connor; for Superintendent of Public Instruction, Oliver E. Wells; for Railroad Commissioner, Wilbur M. Root. The platform contains the following:

We oppose any division or diversion of public-school funds to sectarian uses.

Favoring laws providing for the compulsory attendance at school of all children, we believe that the school law in force prior to the passage of the Bennett law guaranteed to all children of the State opportunity for education, and in this essential feature was stronger than the Bennett law. The "underlying principle" of the Bennett law is needless interference with parental rights and liberty of conscience. The provisions for its enforcement place the accused at the mercy of the school directors and deny his right to trial by jury and according to the law of the land. To mask this tyrannical invasion of individual and constitutional rights, the shallow plea of defense of the English language is advanced. The history of this State, largely peopled with foreign-born citizens, demonstrates the fact that natural causes and the necessities of the situation are advancing the growth of the English language to the greatest possible extent. We therefore denounce that law as unnecessary, unwise, unconstitutional, un-American, and undemocratic, and demand its repeal.

On Sept. 5 a State convention of the Union Labor party, composed chiefly of delegates from the labor organizations of Milwaukee, met in that city and made the following nominations: For Governor, Reuben May; for Lieutenant-Governor, Nelson E. Allen; for Secretary of State, William M. Lockwood; for Treasurer, Alfred Mannheim; for Attorney-General, Michael Shiel; for Superintendent of Public Schools, Joseph H. Steward; for Railroad Commissioner, Belia S. Bishop; for Insurance Commissioner, Charles Hatch. Resolutions were adopted embodying the demands of the laboring classes and approving the Bennett law.

In the canvass the principal subject of discussion was the Bennett law, which the Democrats alone, of the four parties in the field, had denounced. (For the provisions of this law, see "Annual Cyclopaedia" for 1889, page 827.)

In addition to the repeal of this law, the Democrats were pledged to retrench State expenses, to cut off many commissions and minor offices created by the Republicans in recent years, and to secure a change in the law whereby balances

in the State treasury should be placed in banks and draw interest. At the November election the Democratic party found itself in the majority for the first time in recent years. Its entire State ticket was elected, the vote for Governor being as follows: Peck, 160,388; Hoard, 132,068; Alexander, 11,246; May, 5,447. The Legislature chosen was as follows: Senate, Democrats 18, Republicans 15; House, Democrats 66, Republicans 33, Union Labor 1. One Republican and 8 Democratic members of Congress were chosen—a gain of 6 seats by the Democrats.

WOMAN'S CHRISTIAN TEMPERANCE UNION. On Dec. 23, 1873, the Woman's Crusade began in Hillsborough, Ohio. This movement was brought about through Dr. Dio Lewis, of Boston, who had delivered a temperance lecture in the town hall the previous evening, during which he related the sorrowful experiences of his mother, who, years before, because of the drinking habits of her husband, had been led to visit the place where he obtained his drink, and there plead and pray till the place was closed. Dr. Lewis then said: "Ladies, you might do the same thing in Hillsborough, if you had the same faith." At the suggestion of some one in the audience, he asked how many ladies were ready for such a service. Fifty or more rose in response, and he then asked how many of the men would stand by if such a work were attempted by the women, and sixty or seventy responded.

Mrs. Eliza Trimble Thompson, only daughter of Gov. Trimble, of Ohio, was chosen as the leader, although she was not present. But her little boy was, and with childish eagerness he ran to tell his mother of the new duties laid upon her. At nine o'clock the following morning, according to appointment, the women met in the old Presbyterian church. Mrs. Thompson read the 146th Psalm, and, after prayer and singing of the old hymn—

Give to the winds thy fears,
Hope and be undismayed;
God hears thy sighs and counts thy tears,
He shall lift up thy head,

they went forth on their mission.

The movement lasted about two months, with varying results. In Ohio the saloons were closed in more than 250 towns and villages. When the uprising had to some extent subsided, these bands of women began to form themselves into societies under different names, that they might, in the more systematic way of appointing committees, continue to visit the saloons. Gradually the thought of a national organization took form, and a call was issued for a national convention to meet in Cleveland, Ohio, Nov. 17 and 18, 1874. Here the National Woman's Christian Temperance Union was organized, a constitution adopted, officers elected, a plan of work inaugurated, and measures taken to secure united effort among women throughout the country.

At the first convention seventeen States were represented; fifteen years later it has an organization in every State and Territory and in the District of Columbia, and has local unions in about 10,000 towns and cities. Its membership (returns being incomplete) is nearly 200,000; its following, including honorary members and the children in the juvenile societies, is probably over half a million. It is the largest society in the

world that is composed exclusively of women and conducted entirely by them.

Its object is to educate the young in temperance and prohibition principles, to reform the drinking classes, and to secure entire prohibition of the traffic in intoxicating liquors as beverages. Its work is comprised under the general divisions of preventive, educational, evangelistic, social, and legal. Under this general classification there are about 40 different departments, each of which is in the special charge of one woman, called a superintendent, whose first duty it is to secure the appointment of a superintendent for the same work in each State and Territorial organization, and hers, in turn, to secure in each district, county, or local union some woman to fill the same office and attend to the work of the department in her own locality. In this way a chain of superintendents is made, and the work is so apportioned to each that one can not trench upon the ground of another, while there is no danger of duplicating the work. The leading departments are:

Organization, embracing the work of organizing the children, young people, colored people, and the foreign born.

Health, aiming to teach the study of sanitation, with a view to the best methods of living.

Heredity, aiming to teach the power and force of heredity in individuals and races, and its relation to healthy and diseased conditions.

Scientific Instruction aims to secure such legislation as shall make the study of the nature and effect of alcohol upon the human system compulsory in our public schools.

The Department of Sunday-school work aims, through lessons regularly prepared, to give to the young student of the Bible, in his formative years, the "thus saith the Lord" regarding moral responsibility as applied to the individual and the State.

The Department of Temperance Literature furnishes the printed argument for total abstinence for the individual and for State and national prohibition. This work is done by the preparation and circulation of books, papers, leaflets, etc. It also furnishes courses of topical study for making local meetings interesting and profitable and the members thoroughly educated in all branches of the temperance reform.

The Press Department aims to provide the press, both religious and secular, with the latest and most important news concerning the work of the union; to bring constantly before the reading public facts, illustrations, and statistics, helpful in educating the public mind and conscience along this line of reform; and to correct, in the same columns whence they emanate, inaccurate statements with regard to the principles, methods, and leadership of the union. To accomplish this, the national superintendent sends out two weekly bulletins, one to religious papers and another for general distribution. Particular attention is paid to the metropolitan and associated press, to "patent outsiders," and to the press in capital cities during legislative sessions.

The growing tendency among boys and young men to the use of tobacco, opium, and other narcotics led the union to incorporate among its departments that of narcotics. This has led to a study of the subject in its relation to the body

and brain, and the unfoldings of science on this theme are given in a series of leaflets, while more and more it is claiming the attention of our lecturers.

For the further education of the people, especially those who do not attend temperance meetings held in their own towns, but who will gladly go to listen for want of something else to employ the mind and help to while away the time when away for the summer, at mountain or seaside, mass temperance meetings are held at nearly all summer resorts. For those workers who during other months are busy with the various lines of work in their own towns, who for this reason have little time to study ways and means, Schools of Methods are held at Chautauqua Assembly grounds, camp meetings, etc., where the best methods are taught, that trained workers may take the places of those now unskilled.

The foundation underlying the whole superstructure of this society is its Evangelistic Department. It aims to inspire its members to diligent effort in carrying to the drinking classes the Gospel cure for intemperance. Its methods are to hold meetings among non-church-goers, to go out into the by-ways and open the door of opportunity to those who are seemingly otherwise shut out, and proclaim to them a more excellent way. It has a Department of Bible Study in charge of the Rev. A. A. Wright, D. D., of Cambridge, Mass., Dean of the University of Chautauqua. This is designed for those who desire to be evangelists. A course has been prepared embracing four years of study, including in each year selected portions of the historical, practical-evangelistic, and epistolary portions of Scripture, and recommending the best helps and introducing the student to an acquaintance with the elementary Greek text. This course of study is carried on by recitation questions issued by the dean, and full examinations are required in the presence of committees.

The Department of Work in Prisons, Jails, and Police Stations aims to carry the gospel to the inmates of these places, to co-operate with prisoners' aid associations, and assist in establishing women's reformatory prisons and industrial homes for the criminal classes; to secure the appointment of women on State boards of charities, and matrons in prisons and police stations where women are imprisoned or under arrest. The Gospel and police-matron work is directly under the auspices of the Union, while the other branches are co-operative with outside organizations.

Work in almshouses and asylums seeks to brighten the lives of the unfortunates found in each; to secure the establishment of orphans' homes, and the transfer of children found in almshouses to these homes; the holding of gospel and temperance meetings in these same institutions, and bringing good influences from outside to bear upon the inmates.

The Flower Mission is intimately related to the two foregoing departments, inasmuch as it strives, by the aid of flowers and kindly ministrations, to win hearts otherwise hopelessly alienated from all that is good and pure. By bouquets tied with white ribbon with a Scripture verse or temperance selection attached, and the total-abstinence pledge offered at appropriate

times, this department aims to graft the Gospel upon a beautiful form of philanthropy.

The Railroad Department includes railroad men, telegraph operators, etc., express and hackmen, and news agents, and seeks to organize among them Gospel and temperance clubs or railroad unions, and to present the pledge at shop and round-house meetings and distribute among them temperance literature.

The Department of Soldiers and Sailors aims to reach the army and navy with Gospel temperance work; to secure the prohibition of saloons in soldiers' homes, forts, camps, etc.; also to enlist in this peaceful war all veterans, both North and South; to inculcate in the young the spirit of true patriotism, and to secure their aid in placing a flag on every schoolhouse in the land.

Work among lumbermen aims to carry the gospel of temperance to the armies of men in the logging camps who are generally destitute of religious or moral teaching and of all temperance or Christian influences. The same methods are used in the work among miners, and the same results are sought for.

The relation known to exist between the drink habit and the nameless habits, outrages, and crimes that disgrace modern civilization has led the Union to adopt a Department for the Promotion of Social Purity, to point out and emphasize the brutalizing influence of intoxicating liquors upon the social nature, to educate and thus forewarn and forewarn the young, to establish a single code of morals and maintain the law of purity as equally binding upon men and women, and to impress upon the minds of all the absolute demand of religion and physiology for purity in word, thought, and deed. It endeavors to secure legislation calculated to protect honor and virtue in the young, and to defend women and girls from brutal men.

The Union asks a better observance of Sunday, and tries to secure a day of rest for all the employed. It aims to interest the more conservative social classes of society by its Department of Parlor Meetings, held in homes where the audience is gathered by special invitation and refreshments are served.

The Department of State and County Fairs protests against the sale of intoxicants on holiday occasions, at State and county fairs, and at all places where the people congregate in a public capacity.

The aim of the Department of Legislation and Petitions is to secure the prohibition of the traffic in intoxicating liquors as a beverage by constitutional amendment and statutory law in every State and Territory and by an amendment to the National Constitution.

The Department of Franchise seeks to aid the women in utilizing the school ballot for temperance, in those States where such laws are in force, and to secure it where not; and to assist in securing the full ballot where that is a line of work.

The Department of Peace and International Arbitration aims to secure such teaching for the children in home, Sunday-schools, and public schools, and juvenile temperance societies, as will make them opposed to physical combat. It urges that arbitration shall take the place of

war in the settlement of all disputed points between nations, and co-operates with the peace societies of this and other lands.

The official organ is the "Union Signal," which has the largest subscription list of any religious or philanthropic paper in the country except one. Twenty State organizations also have State papers.

The Department of Young Women's work, which aims to interest the young people in total-abstinence principles and in temperance effort, has its own organ, the "Oak and Ivy Leaf." "The Young Crusader" is the children's paper, and the children's society under the auspices of the Union is the Loyal Temperance Legion, which has a membership of between 200,000 and 300,000, and aims to teach the boys and girls the "thus saith science" and "thus saith the Lord" regarding temperance and moral truths.

The Union has its own publishing house, the Woman's Temperance Publishing Association, in Chicago, from which each year millions of pages of temperance and prohibition literature are sent out literally to the ends of the earth. It is a joint-stock company with a paid-up capital of \$150,000, the stock entirely owned and controlled, and the publishing interests conducted, by the women of the Union.

Its national headquarters are at Evanston, Ill., the home of its president, where the corresponding secretary and treasurer have their offices, and from which go out the plans of work, all official documents, and suggestions for State, district, county, and local work, and where these officers, with their secretaries, stenographers, and type-writers are engaged in pressing the work.

The Woman's Lecture Bureau is an outgrowth as well as a part of the National Union. It is controlled by women, although it has upon its list of speakers not only women, but men. It furnishes speakers whose subjects bear not only upon the varied phases of the temperance reform, but upon popular questions of the day, and aims to supply Sunday-schools, Chautauqua assemblies, summer camps, grand army posts, and young men's Christian associations, and all who desire to arrange for literary, musical, and other entertainments. It accomplishes what no other bureau of the kind does, inasmuch as it keeps its speakers in the field constantly and employed on an average of four evenings in the week the year through.

Women who are leaders in the Union have established a temperance hospital in Chicago, to demonstrate that alcoholics are not necessary in medicine, and a well-equipped training school for nurses is connected therewith.

The officers of the Union are: President, Miss Frances E. Willard, Illinois; Corresponding Secretary, Mrs. Caroline B. Buell, Connecticut; Recording Secretary, Mrs. Mary R. Woodbridge, Ohio; Assistant Recording Secretary, Mrs. L. M. N. Stevens, Maine; Treasurer, Miss Esther Pugh, Ohio.

Its annual conventions, at which its officers are elected, plans of work revised, new departments added, resolutions passed, reports received, etc., have been held as follow: Cleveland, Ohio, in 1874; Cincinnati, Ohio, 1875; Newark, N. J., 1876; Chicago, Ill., 1877; Baltimore, Md., 1878; Indianapolis, Ind., 1879; Boston, Mass., 1880;

Washington, D. C., 1881; Louisville, Ky., 1882; Detroit, Mich., 1883; St. Louis, Mo., 1884; Philadelphia, Pa., 1885; Minneapolis, Minn., 1886; Nashville, Tenn., 1887; New York City, 1888; Chicago, Ill., 1889; Atlanta, Ga., 1890. That of 1891 will be held in Boston, Mass., and a mid-year conference will be held in Los Angeles, California, in May, 1891.

Soon after the organization of the National Union the women of Canada and Great Britain followed suit, and the National Union had hardly completed its first year of existence when steps were taken to form an International Union, but it was not till 1883 that the idea took form in the World's Woman's Christian Temperance Union, electing as its first president Mrs. Margaret Bright Lucas, sister of John Bright. In 1882 Mrs. Mary Clement Leavitt, of Boston, went to the Pacific coast, and from there, with no assured financial support, unattended, began to belt the globe with the white ribbon, the badge of the Union, and carry the gospel of temperance to foreign nations, forming unions wherever practicable. Eight years have passed, and this temperance "round-the-world missionary" is still pursuing her weary way on the continent, having left behind her, in as many countries, beginning with the Sandwich Islands, twenty national organizations, auxiliary to the World's Union. She sought to interview emperors, kings, and queens in every country, only twice being denied audience. In January, 1889, Miss Jessie Ackerman followed in Mrs. Leavitt's footsteps, gathering her financial support as she went from no other source than her own lectures. Others will follow as the work demands. The general plan of divisions and subdivisions here tofore mentioned is followed.

During the past decade science has done much for the temperance cause, but it remained for the Woman's Christian Temperance Union to make practical these findings through its department of scientific instruction in the public schools, the results of which are to be found in the fact that upon the statute books of 27 States there are laws making compulsory the study of "physiology and hygiene, with special reference to the effect of alcoholic stimulants and narcotics upon the human system." In 1887 the Congress of the United States passed a law making the same study compulsory in all schools in the District of Columbia and the Territories. By these laws thousands of children, who must otherwise be ignorant of scientific facts regarding alcohol and tobacco and their effect upon brain and nerve, are made intelligent and sent out into the world enemies of the saloon. When this work was inaugurated there were no text-books on the subject, and this fact added its weight to the objections made by school boards to the study and of legislators to enacting laws while there were no facilities for carrying out their provisions. School-book publishers were asked to prepare them, but declined to furnish books for which there was no demand. To create a demand was the next work, and the constituency of the legislator was next appealed to; this, by persistent effort, brought the requisite legislation and created the demand for books, and the publishers began to supply the market.

The next point of attack was in the school-

room, urging principals and teachers to their duty and helping them in their preparations to meet it. Teachers' institutes have been visited in this interest, and normal classes formed for the benefit of those obliged by law to teach this study. To a certain extent, co-operating with these laws requiring the teaching of the nature and effect of alcohol, in many States legislation has been secured making it unlawful to give or sell to minors, cigars, cigarettes, or tobacco in any form, and to some of these laws heavy penalties are attached. The Union has taken active part in seventeen campaigns for constitutional prohibition, four of which were carried, one of the four (Iowa) declared unconstitutional by the State courts because of a slight technicality in the submission legislation, and another (Rhode Island) afterward resubmitted and lost, Maine and Kansas still standing. In most of these campaigns the Union not only took an active part, but was foremost as the promoters.

Ten years ago temperance was almost an unheard-of theme for a Sunday-school lesson, but now, after years of patient labor in this department, the International Sunday-School Convention has made arrangements for the review to be put upon the twelfth Sunday of the quarter, thus avoiding complication with the temperance lesson, and, beginning with 1892, two specific temperance lessons, and two on the thirteenth Sunday, optional with the missionary lesson, will also be arranged for.

The Department of Soldiers and Sailors has been most active in efforts to influence Congress not to adopt the recommendation of the House Committee on Military Affairs, appropriating \$100,000 for the establishment of the "canteen system" at military posts. The effort put forth was successful in that it called the people's attention to what had been little known or thought of before, and in arousing their sympathy and in the making of sentiment at the nation's Capitol, in Grand Army posts, and the Woman's Relief Corps, and in laying a good foundation for future work in Congress.

The Department of Social Purity has made a decided advance in that it has brought to the attention of the people facts concerning the age of protection for young girls, in some States it being as low as seven years. In several States, in response to the appeals of the Union, the age of consent has been raised—in some to eighteen, in others to sixteen, and in others to fourteen years. Bills have been introduced into Congress asking that body to take action.

No more beneficent work has been done by the Union than that which has placed police matrons in so many of the police stations of our larger cities, notably Portland, Me., where the work had its inception, Boston, Providence, Philadelphia, and Chicago. For years women arrested on the streets and brought to the stations have had none but men to attend them, and when we reflect that they are often in a condition where they are not able to care for themselves, the wonder is that this much needed reform has been so long delayed.

All the work of these departments, as well as the work at headquarters, has been carried on with a comparatively small outlay of money, for the only assured funds flowing into the national

treasury come from the State unions, which out of the dues received from the local unions, pay the small sums of 10 cents per member of local unions to the national society. In most instances the annual membership fee in the local union does not exceed a cent a week, or 50 cents a year, about one half of this going to the State union. Added to this aggregate of dimes going to the national treasury, friends of the cause and of the Union have made small gifts, but not usually to exceed a few hundred dollars a year.

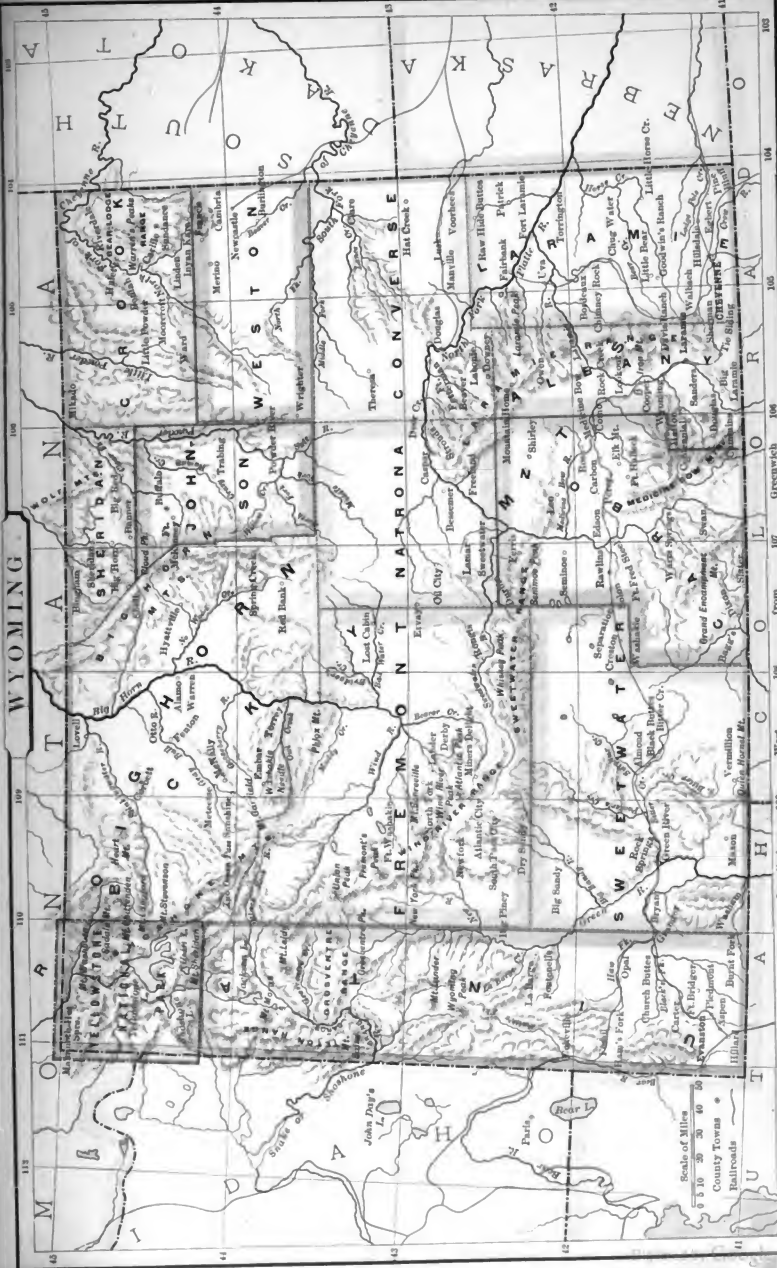
WYOMING, a Northwestern State, admitted to the Union as a State by act of Congress approved July 10, 1890; area, 97,890 square miles; population, according to the Federal census of 1890, 60,705. Capital, Cheyenne.

Government.—The following were the Territorial officers at the beginning of the year: Governor, Francis E. Warren, Republican; Secretary, John W. Meldrum; Treasurer, Luke Voorhees; Auditor, Mortimer N. Grant; Attorney-General, Hugo Donzelman; Superintendent of Education, John Slaughter; Chief Justice of the Supreme Court, Willis Van Devanter; Associate Justices, Samuel T. Corn and M. C. Sauley. Under the provisions of the admission act, these Territorial officials held over after the admission of the Territory to the Union, until Oct. 14, when the following State officers, elected by the people, assumed control: Governor, Francis E. Warren, Republican, who resigned on Nov. 18 to accept an election to the United States Senate, and was succeeded by Amos W. Barber as acting Governor; Secretary of State, Amos W. Barber, acting as Governor after Nov. 18; Treasurer, Otto Gramm; Auditor, Charles W. Burdick; Superintendent of Public Instruction, Stephen T. Farwell; Judges of the Supreme Court, Willis Van Devanter, Herman V. S. Groesbeck, and Asbury B. Conaway.

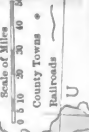
Population.—The following table shows the population of the State by counties, as determined by the national census of 1890, compared with the population in 1880:

COUNTIES.	1880.	1890.	Increase.
Albany.....	4,626	8,865	4,239
Carbon.....	2,438	6,857	4,419
Converse.....	.....	2,738	2,738
Crook.....	289	2,983	2,694
Fremont.....	.....	2,468	2,468
Johnson.....	687	2,357	1,720
Laramie.....	6,409	16,777	10,368
Natrona.....	.....	1,094	1,094
Sheridan.....	.....	1,972	1,972
Sweetwater.....	2,561	4,941	2,380
Tiuta.....	2,879	7,881	5,002
Weston.....	.....	2,422	2,422
Total.....	20,789	60,705	39,916

Finances.—On Sept. 1, 1890, there was a cash balance of \$94,914.02 in the Territorial treasury. The bonded debt of the Territory, which the State will be compelled to assume, is \$320,000, bearing interest at 6 per cent., and payable in from twelve to forty years. This entire debt was incurred in the construction of public buildings and other public works. The assessed valuation of Wyoming property in 1890 was \$30,665,499.11, as against \$11,857,344 in 1880 and \$6,924,357 in 1870. It is believed that the assessed valuation for taxing purposes does not exceed



WYOMING



one third of the actual valuation. The rate of taxation for 1890 was 41-25 cents on each \$100.

County Debts.—The total debt of Wyoming counties in 1890 was \$1,081,482, an increase of \$912,105 in ten years. Of this sum, \$655,000 is a bonded debt and \$426,482 a floating debt. Nearly every county has a debt.

Settlement.—The number of acres of land in Wyoming is 62,645,120. Nearly 48,000,000 acres have been surveyed. More than three fourths of the lands of Wyoming are yet open for settlement under homestead and other United States land laws, and the field is rich for the emigrant. United States land officers are located at Cheyenne, Laramie County; Sundance, in Crook County; Douglas, in Converse County; Buffalo, in Johnson County; Lander, in Fremont County; and Evanston, in Uinta County.

Territorial Legislative Session.—The eleventh Legislative Assembly of the Territory convened at Cheyenne on Jan. 14, and adjourned on March 14. Early in the session a memorial to Congress was adopted praying for admission of the Territory to the Union under the Constitution of 1889. The legislation of the session includes an election law that establishes a method of registration for voters and introduces the Australian ballot system. It is provided that all ballots cast in elections for public officers (except school-district officers) shall be printed at public expense. Nominations of candidates may be made by the convention or primary meeting of any political party, or by petition signed by legal voters, not fewer than 100 when the office is to be filled by electors of the entire Territory, and not fewer than 10 in other cases. Certificates of nomination for candidates to be voted for in a district greater than a single county shall be filed with the Secretary of the Territory; certificates for county and precinct officers, including members of the Legislature, shall be filed with the county clerks, and certificates for municipal officers with the municipal clerks. The names of all candidates nominated shall be published prior to the election in the local papers. All ballots shall be of white paper, printed with black ink, and shall contain the name of every candidate duly nominated. The names of candidates for each office, with the name of the party to which they belong, shall be arranged under the designation of the office, except that the names of presidential electors, presented in one certificate of nomination, shall be arranged in a separate group. The voter shall retire with his ballot to a booth, and indicate his choice by placing a cross before or after the name of the person to be voted for; or, if a question is submitted, by marking out such parts of the ballot that the remainder shall express his choice. He may also write in the name of any other person for whom he may wish to vote, and he may take into the booth any unofficial sample ballot to assist him in his choice, but such sample must differ in size and color from the official ballot. The voter shall fold his ballot so as to conceal his choice and so that the official indorsement upon the back shall be seen, and shall deposit it in that condition. Payment of a poll tax shall in no case be necessary to entitle any one to vote. All days on which regular Territorial or county elections are held shall be legal holidays.

Another law provides for the organization and government of the Territorial militia. The Capitol-building commissioners were legislated out of office, and the Auditor, Territorial Engineer, and Treasurer were designated as such commissioners, to serve without pay. The live-stock commission act of 1888 was amended in many of its details. It was also enacted that honorably discharged Union soldiers and sailors should be preferred for appointment and employment in all public departments and works of the Territory, cities, and counties, and that loss of limb or other physical impairment, which does not incapacitate for the discharge of the duties required, shall not disqualify. Other acts of the session were as follow:

To prevent and punish fraud upon miners by mine owners, lessees, operators, or agents, in weighing the output.

Providing that the next regular session of the Legislature shall convene on the second Tuesday of January, 1891, and that succeeding sessions shall be held every second year thereafter.

To prohibit the selling, giving, or furnishing of tobacco in any form to minors.

Repealing the law imposing a tax for the stock indemnity fund.

To permit the purchase, lease, sale, and aiding of railroads by each other, and to ratify prior sales and consolidations.

To provide for the incorporation of mutual building and loan, or building, loan, and trust associations.

Requiring fire-insurance agents to pay to the city or town where property insured by them is situated, if such city or town supports a fire department, a tax or rate of 1 per cent. on all premiums received by them upon property in such city or town, such sum to be used for the support and benefit of the fire department.

Empowering county commissioners to offer a bounty of not over \$10 an acre to every person who shall plant one or more acres of land with forest trees and properly cultivate them for five years.

To create the county of Weston out of a portion of Crook County.

To provide for the creation of Big Horn County out of portions of Johnson and Fremont Counties.

To regulate voluntary assignments for the benefit of creditors.

Revising and codifying the criminal law.

To provide rules for leasing the university lands in the Territory.

Revising and amending the road laws.

Railroads.—The Union Pacific Railway extends across the southern portion, the Oregon Short Line across the northwest; the Denver Pacific and the Colorado Central come in at Cheyenne; the Laramie, North Park and Pacific comes in at Laramie from the south to the Union Pacific; and the Cheyenne and Northern extends northward from the Union Pacific at Cheyenne. The Cheyenne and Northern is completed 125 miles, and the iron is being laid on an extension of nearly 50 miles, which will connect it with the Wyoming Central Railway. The Wyoming Central (Northwestern) extends from the eastern line of Wyoming westerly throughout the central portion to Casper, some 150 miles. The Cheyenne and Burlington has about 30 miles extending from Cheyenne east; and the Burlington and Missouri, through its Wyoming branch, has a line extending into the northeast, in Weston County. There are about 1,000 miles of railroad already constructed.

The Admission Act.—Early in the session of the fifty-first Congress Wyoming presented her claims for Statehood, asking for admission to the Union under the Constitution of September, 1889, which was adopted by the people on Nov. 5 following (see "Annual Cyclopaedia" for 1889, page 828). The bill for admission passed the House of Representatives on March 27, 1890, passed the Senate on June 27, and received the President's signature on July 10. By its terms Wyoming became a State from and after the date of the President's approval. The boundaries were defined as follow: Beginning at the intersection of the 27th meridian of longitude west from Washington with the 45th degree of north latitude and running thence west to the 34th meridian of west longitude; thence south to the 41st degree of north latitude; thence east to the 27th meridian of west longitude; and thence north to the place of beginning.

Sections 16 and 36 in every township, or lands in lieu thereof, were granted to the new State for the support of common schools, on condition that the proceeds from the sale thereof be set apart as a permanent school fund. This fund is entitled also to receive 5 per cent. of the proceeds of sales of public lands within the State hereafter made by the United States. Seventy-two sections of the public lands are confirmed to the State for university purposes, the proceeds of which shall constitute a permanent university fund, and 90,000 acres are granted for the support of an agricultural college. Fifty sections are also given to aid in the erection of public buildings at the State capital. The Penitentiary, at Laramie City, and all lands connected therewith, shall become the property of the State. The following grants are also made: For the establishment, maintenance, and support of the insane asylum in Uinta County, 30,000 acres; for the penal reformatory or educational institution in course of construction in Carbon County, 30,000 acres; for the Penitentiary, in Albany County, 30,000 acres; for the fish hatchery in Albany County, 5,000 acres; for the deaf, dumb, and blind asylum in Laramie County, 30,000 acres; for the poor farm in Fremont County, 10,000 acres; for a hospital for miners who shall become disabled or incapacitated to labor while working in the mines of the State, 30,000 acres; for public buildings at the capital of the State, in addition to those hereinbefore granted for that purpose, 75,000 acres; for State charitable, educational, penal, and reformatory institutions, 260,000 acres; making a total of 500,000 acres.

Election.—Pursuant to the provisions of the new Constitution and the admission act, Gov. Warren issued his proclamation on July 15, designating Sept. 11 as the date of the first election for State, county, and precinct officers. Soon thereafter calls were issued by the respective State committees for State conventions of the Republican and Democratic parties, to be

held at Cheyenne on Aug. 11. The Democratic convention nominated George W. Baxter for Governor; John S. Harper for Secretary of State; J. C. Miller for Treasurer; George A. Campbell for Auditor; A. V. Quinn for Superintendent of Public Instruction; Samuel T. Corn, P. G. Bryan, and Henry S. Elliott for Justices of the Supreme Court; and George F. B. Clark for member of Congress. Resolutions were adopted denouncing the McKinley bill, demanding the free coinage of silver, and favoring a secret ballot and the election of United States Senators by the people. Regarding woman suffrage, the platform declares: "We believe that no citizen of the United States, male or female, who is well disposed to the good order and happiness of the country should be denied the right of suffrage."

The nominees of the Republican State Convention were as follow: Francis E. Warren for Governor; Amos W. Barber for Secretary of State; Otto Gramm for Treasurer; Charles W. Burdick for Auditor; Stephen T. Farwell for Superintendent of Public Instruction; Willis Van Devanter, Herman V. S. Groesbeck, and Asbury B. Conaway for Justices of the Supreme Court; and Clarence D. Clark for member of Congress. The platform strongly approves the protective tariff system, congratulates the people upon the passage by Congress of the law providing for increased silver coinage, demands strict enforcement of the Chinese exclusion act, and commends the action of the new State in enfranchising women. The entire Republican ticket was elected. For Governor the vote was: Warren, 8,879; Baxter, 7,153. Members of the first Legislature were elected as follows: Senate, Republicans 14, Democrats 2; House, Republicans 27, Democrats 6. Pursuant to the State Constitution, a board of State canvassers met at Cheyenne on Oct. 11 to canvass the returns of this election and to declare the result. The board completed its work on Oct. 14, and declared the election of the Republican ticket; whereupon Gov. Warren and his associates took the oath of office.

State Legislative Session.—Immediately after qualifying under the State Constitution, Gov. Warren issued his proclamation convening the Legislature at Cheyenne on Nov. 13. Its first duty was to elect two United States Senators. On Nov. 15, Joseph M. Carey, Republican, was elected to one of these offices by the following vote: Senate, Carey 12, George W. Baxter, Democrat 2; House, Carey 27, Baxter 5. For the second Senatorship the Republicans were not united upon any candidate, but on the first ballot in joint convention distributed their votes among eleven aspirants. Seven ballots were taken before a choice was reached, on the last of which, Nov. 18, Gov. Warren, the successful candidate, received 29 votes, M. C. Brown 7, John McCormick 3, H. R. Mann 1, and Henry A. Coffeen, Democrat, 0. The work of legislation was unfinished at the close of the year.

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